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ABSTRACT

The study described in this report was conducted to explore the problems with, and possible alternatives to, the current Title IIA and IIB allocation formula required by the Job Training Partnership Act (JTPA). The study included a literature and legislation review; interviews with practitioners, public interest groups, and Congressional staff to identify concerns; and empirical analyses using a variety of secondary data sources to assess the scope and dimension of problems identified with the allocation formula. This report is organized in six chapters. The first chapter provides background information on the allocation formula and the methodology of the study. Chapter 2 reviews the JTPA Title IIA and IIB allocation formula. Included in this chapter is a description of exactly how the formula works as well as a summary of major problems and concerns that have arisen since they were implemented in 1983. Chapter 3 assesses the distributional equity of the current formula. Particular attention is devoted to the geographic distribution of target populations underlying the formula factors and the extent to which they overlap. Chapter 4 addresses the issue of funding stability. Focusing primarily on the service delivery area level, it explores funding changes over the years. Chapter 5 addresses the adequacy of data and data sources that support the current allocation formula. The final chapter of the report assesses a number of alternatives to the current allocation formula. Based on the research presented in the previous chapters, it reviews a number of options that can more effectively promote distributional equity, data accuracy, and increased funding stability. Appendixes present references, detailed data tables, and a brief review of the use of allocation formulas in recent employment and training legislation. (KC)

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AN ASSESSMENT OF FUNDING ALLOCATION UNDER THE JOB TRAINING PARTNERSHIP ACT

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EXECUTIVE SUMMARY

Objectives and Methodology

Over the past 25 years, intergovernmental grants-in-aid have grown to represent an important major policy tool for the federal government. Such grants have been used to augment the availability of general revenue at the state and local levels and to address specific national priorities. Between 1954 and 1984, grants-in-aid to state and local governments increased from $2.9 billion to $97 billion. While their share of the federal budget has recently declined from 17 percent in 1979 to 11 percent in 1984, the magnitude of the grants-in-aid program alone leaves it as a significant policy tool and source of revenue for states and localities.

In recent years the block grant has become a widely used form of intergovernmental transfer. Block grants are a flexible lump sum transfer typically allocated by formula for use in a wide range of activities within a specified functional area. The Job Training Partnership Act (JTPA), enacted in 1982, is currently one of the larger federal programs funded through such a formula-driven block grant.

In Program Year 1985 (PY85) the U.S. Department of Labor distributed over $2.9 billion to states to fund programs under various titles of JTPA. The vast majority of funds ($1.88 billion) were distributed under Title IIA to support employment and training programs for economically disadvantaged adults and youth. An additional $284 million was made available under Title IIB for the operation of summer youth employment programs. Title III of of JTPA allotted over $220 million in formula funding to states for the provision of training and reemployment services to displaced workers.

Titles IIA and IIB currently use identical allocation formulas for the distribution of funds. This same formula is also used by governors who are responsible for passing the majority of the funds through to local service delivery areas (SDAs) for actual program operations. Title III relies on a separate allocation formula which is intended to reflect its unique focus on dislocated workers. Unlike Titles IIA and IIB, the gover-

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nor is given complete flexibility in determining if and how these funds will be distributed to the local level.

Since JTPA was implemented, considerable attention has been devoted to the adequacy of these allocation formulas. The vast majority of concern has focused on the Title IIA and IIB formula, since it is responsible for distributing over 90 percent of the JTPA grants to states. In addition, nearly 600 local service delivery areas are directly affected by this formula.

Concerns have been raised by practitioners regarding the ability of the formula to provide stable year-to-year funding. Others have criticized the formula for not adequately targeting funds to central cities where there are sizeable concentrations of labor market problems. Still others have argued that the formula is not equitable because the underlying data do not reflect current economic conditions.

Prompted in part by such concerns, the U.S. Department of Labor commissioned a research study in July 1985 to explore the problems with, and possible alternatives, to the current Title IIA and IIB allocation formula. The objectives of the study, as specified in the Request for Proposals, were to conduct:

- A comparison of the allocated distribution of JTPA funds and the geographic distribution of program eligibles
- A critical survey of data bases and data items available (or potentially available) for use in JTPA allocation formulas at the state and local level
- A comparative analysis of alternative JTPA allocation formulas.

The study was conducted in phases, which consisted of:

- A review of relevant literature and legislation to establish a conceptual foundation for examining the JTPA allocation formula
- Interviews with practitioners, public interest groups, and Congressional staff to identify the full range of issues and concerns that have arisen and solicit opinions on desirable alternatives
- Empirical analyses using a variety of secondary data sources in order to assess the scope and dimension of various problems identified with the allocation formula. Data sources used in this phase were actual Program Year 1984 and 1985 formula factor and allocation data for all states and the nearly 600 SDAs across the country. These data were supplemented with

additional information from the 1980 Census of Population and the 1985 Current Population Survey.

- An evaluation of alternative data sources and formula specifications for purposes of improving the current Title IIA and IIB allocation formula.

Summary of the Allocation Formula

The Job Training Partnership Act specifies that Title IIA and IIB funds are to be distributed to states and SDAs based on the following needs-based factors, relative weights, and definitions:

Factor	Definitions
(A) 33 1/3 percent on the basis of the relative number of unemployed individuals residing in areas of substantial unemployment.	The term "area of substantial unemployment" means any area of sufficient size and scope to sustain a program under Part A of Title II of this Act and which has an average rate of unemployment of at least 6.5 percent for the most recent twelve months as determined by the Secretary.
(B) 33 1/3 percent on the basis of the relative excess number of unemployed individuals.	The term "excess number" means the number which represents the number of unemployed individuals in excess of 4.5 percent of the civilian labor force in the service delivery area or the number which represents the number of unemployed individuals in excess of 4.5 percent of the civilian labor force in areas of substantial unemployment in such service delivery area.
(C) 33 1/3 percent on the basis of the relative number of economically disadvantaged individuals.	The term "economically disadvantaged" means an individual who has, or is a member of a family which has, received a total family income (exclusive of unemployment compensation, child support payments, and welfare payments) which, in relation to family size, was not in excess of the higher of (i) the poverty level determined in accordance with criteria established by the Director of the Office of Management and Budget, or (ii) 70 percent of the lower living standard income level.

In addition, the law mandates that each state receive a specified minimum share (.0025 percent) of total funds and that no state's share can dip below 90 percent of the proportion received in the previous program year.

The actual distribution of Title IIA and IIB funds follows a two-tier process. Under the first tier, the Secretary of Labor awards an allotment to each state based on its relative share of the three formula factors noted above. The governor then "repools" 78 percent of the allot ment into three equal size pools from which SDA allocations are determined on the basis of the same three factors.[1]

This repooling step occurs regardless of the original composition of the state allotment. For example, 50 percent of the state's allotment may have been the result of the state's relative share of the nation's excess unemployed population. However, under the current distribution method, the Governor is required to "repool" the funds in order to insure that only 33 1/3 percent of the funds are distributed to SDAs based on this excess unemployment factor.

Key Research Issues and Findings

In assessing the Title IIA and IIB allocation formula, several key research questions served to focus the analysis. These issues fall into four areas:

- **Distributional equity:** Does the formula promote the equitable allocation of funds as defined or implied by the JTPA legislation? Are funds distributed consistently with the distribution of the eligible population?
- **Funding stability:** Does the formula provide stable, predictable funding on a year-to-year basis?
- **Data quality:** Are the data underlying the formula of sufficient quality to accurately and currently measure the labor market concepts embodied in the allocation formula?
- **Simplicity and intuitive appeal:** Can the formula be readily understood by those who have an interest in the allocations made through it?

Empirical research was conducted in the first three areas noted above, while the fourth issue was assessed qualitatively for the purpose of examining various aspects of the existing formula as well as potential alternatives. A summary of the findings is presented below.

Distributional Equity

The concept of equity is multi-faceted and subject to a variety of interpretations. In light of the JTPA emphasis on serving the economically disadvantaged (ED) population, we adopted a simple definition of equity that suggests that state and local funding under Title II should directly reflect an area's share of this population.

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[1] Under Title IIA the governor retains 22 percent of the state allotment for state programs and administration. Under Title IIB, 100 percent of the funds are distributed to SDAs.

Using this definition, our results demonstrate that the current Title IIA and IIB formula does not distribute JTPA resources in a fully equitable manner. The most influential factor promoting such inequity is the limited overlap between the economically disadvantaged population and the unemployed population which is represented by the excess and ASU unemployment factors. The two populations tend to have quite different geographical distributions as well as little consistency with regard to their socioeconomic characteristics. Specifically, we found that:

- Over one-third (33.6 percent) of the economically disadvantaged (ED) population lived in urban areas, compared to a little over one-quarter (26.8 percent) of the excess unemployed.
- Of the ED population 16 and over, only 6.1 percent were unemployed at the time of the Census. The vast majority (62.7 percent) were out of the labor force.
- Of the unemployed population, less than 20 percent were classified as economically disadvantaged.
- The ED population (16-21) is heavily female (61 percent) and poor (over 60 percent had family incomes lower than 75 percent of the poverty level). In contrast, the unemployed population is predominantly male and nearly three-quarters had family incomes in excess of 125 percent of the poverty level.

The absence of overlap coupled with the weight attached to the unemployment-based factors results in JPTA resources being "pulled" away from areas with the highest concentrations of ED residents in favor of those with high shares of unemployment. In practice, regions such as the Upper Midwest get "overfunded" in relation to their shares of the ED population, while southern regions get "underfunded." Similarly, central cities where the ED are heavily concentrated, receive a significantly smaller share of overall resources than this concept of equity would distribute to them.

The two-tier distribution process was also examined as a potential contributor to funding inequities. Of particular interest was the influence of the repooling step, which requires the governor to alter the composition of the state allotment in order to form equal size pools from which SDA allocations are calculated. Our research addressed two specific questions:

- How often does the repooling process result in the artificial "expanding" and "reducing" of funding pools?
- Does the process of "expanding" and "reducing" appear to affect funding equity by drawing monies away from any particular factor in favor of another?

With respect to the first question, we found that virtually every governor was required to engage in some degree of redistribution in order to establish the three equal size funding pools. Research into the second question revealed that in PY85 the ED factor funding pool was most adversely affected by this process. Specifically, we found that in 60 percent of the states, funds that were brought in as a result of a state's comparative share of the ED population eventually were directed to the other two factor pools in order to comply with the distribution process. By "reducing" the size of this pool to create three distribution pools of equal size, the process produces an adverse impact on equity since it reduces the extent to which areas are funded consistently with their share of the eligible population.

Simulations were conducted using several alternative distribution methods to determine if funding equity could be enhanced. The results suggested that either a direct allocation from the federal level or a two-tier process that eliminates the governor's repooling step would produce more desirable results.

Funding Stability

A commonly voiced issue, particularly from the practitioner community, concerns the current formula's ability to adequately stabilize local funding from year to year. This is a critical issue at the local level since swings in funding (especially cuts) can impair an SDA's ability to establish a permanent, effective service delivery capacity.

A review of actual allocation data demonstrated considerable fluctuations in SDA funding from the first JTPA program year to the second. During a period when national Title IIA funding remained fairly constant, over 40 percent of the SDAs experienced at least a 10 percent absolute change in funding, and over 11 percent of the SDAs experienced an absolute change in excess of 25 percent. The SDAs experiencing the most volatile funding swings tended to be those with the smallest resource base. These changes in the actual funding levels of SDAs imply some level of volatility inherent in the Title IIA and IIB allocation formula.

Since state and SDA shares of the economically disadvantaged are currently set at 1980 Census values, only the excess and ASU unemployment factors have the potential to produce annual variations in funding allocations. Indeed, both factors were shown to contribute to funding changes, with excess unemployment appearing to be the most influential. In both cases the measure's contribution to funding changes appears to be influenced by a factor definition that includes a "threshold" or "cut-off" level. For example, our research with the excess unemployment factor examined the impact on funding stability of raising and lowering the 4.5 percent threshold. Specifically, raising the threshold to 6.5 percent produced considerable volatility, while eliminating the threshold altogether considerably enhanced funding stability. It thus appears that shares of an increasingly diminished base (i.e., number of unemployed above 6.5 percent) are considerably more stable than shares of a broader-based measure (i.e., total number of unemployed).

Our research also noted that local funding stability can be enhanced by extending the reference period used for calculating state and local factor shares. For instance, averaging an SDA's share of unemployment over a two-year period tends to "smooth out" many fluctuations that can occur over a shorter period.

Data Quality

A number of more technical concerns have been raised regarding accuracy and currency of data supporting the allocation formula. The overriding concern is the continued reliance on the Census as the sole source of data on the economically disadvantaged population. The concern of course is that the distribution of the ED population shifts over the course of a decade, resulting in a maldistribution of JTPA resources. Our research has confirmed that this population shifts over periods as short as five years and could generate a sizeable redistribution of JTPA dollars.

In light of this problem we devoted considerable attention to exploring alternative data sources for securing more current estimates of this JTPA-eligible population. The most promising option was the Current Population Survey's Annual Work Experience Supplement, which has several key strengths. First, the CPS is a methodologically rigorous survey that is already in place. Second, the CPS is already used to generate unemployment estimates for the current formula. As a result the survey is a known commodity to the JTPA community. Finally, the CPS sampling frame has recently been redesigned to insure a greater level of accuracy at each site.

Our research indicated that a minimum of two years (and more safely, three years) of ED data should be combined to insure a sufficient level of accuracy at the state level. The combination of March CPS supplements will also serve to enhance funding stability due to an overlap in the sample from year to year, as well as the stabilizing influence of a multi-year average. It should be noted, however, that the use of such updated estimates of the ED population from the CPS Work Experience Supplement still requires the use of Census-based information to ED establish SDA-level estimates.

Improving the Allocation Formula

This study has generated a number of options for improving the Title IIA and IIB allocations formula:

- Increase the emphasis of the formula on the JTPA-eligible population. Currently, the economically disadvantaged factor accounts for only one-third of the total formula weight. In addition to promoting distributional equity, this change would enhance stability, since ED estimates cannot be updated as frequently as unemployment-based data.
- Decrease the emphasis of the formula on the unemployed population. Our research has demonstrated that there is very little overlap between this population and the eligible ED population. The heavy weight on the two unemployment-based factors (combined 66 percent) is thus quite inconsistent with the basic objectives of JTPA.
- Eliminate the repooling step which currently characterizes the two-tier distribution system. In addition to promoting a more equitable distribution, the elimination of this somewhat artificial step would reduce the complexity and enhance the intuitive appeal of the formula.
- Eliminate the use of threshold-based measures. The use of any unemployment-based measure should thus consider a "total unemployment factor" rather than the current excess or ASU factor. The elimination of the ASU factor will also improve the uniform application of the formula.
- Use an extended reference period for calculating state and local factor shares. This can serve to "smooth out" many of the destabilizing fluctuations that can occur over a shorter

time frame.

- Consider the use of the CPS March Work Experience Supplement as a source of state-level estimates of the ED population. The merging of three years of data can provide both improved currency as well as precise estimates of this population. Such improvements in data currency are particularly important if the ED factor is to take on increased emphasis.

1.0 INTRODUCTION TO THE STUDY

Over the past 25 years, intergovernmental grants-in-aid have grown to represent an important major policy tool for the federal government. Such grants have been used to augment the availability of general revenue at the state and local levels and to address specific national priorities such as a trained and educated labor force and the provision of health care to the poor and elderly. Between 1954 and 1984, grants-in-aid to state and local governments increased from $2.9 billion to $97 billion. While their share of the federal budget has recently declined from 17 percent in 1979 to 11 percent in 1984, the magnitude of the grants-in-aid program alone leaves it as a significant policy tool and source of revenue for states and localities.

The federal government relies primarily upon five basic types of grants to distribute public funds. The first is general revenue sharing grants, under which funds are allocated in a lump sum to a grantee with few restrictions. This type of grant is generally motivated by the concern that the grantee lacks fiscal resources to meet its basic human and public service obligations.

The strength of general revenue sharing is that it maximizes local discretion. However, revenue sharing can also be inefficient if the funds simply substitute for local tax revenues, or if the grant is treated as a windfall to be spent on low priority items.

In contrast to revenue sharing, categorical project grants provide funds for a strictly defined program, with the amount of funding determined by competitive proposals or other discretionary methods; a match may or may not be required. These grants make up a relatively small portion of federal grant expenditures with the only sizeable program of this type being the Urban Mass Transit capital improvement program.

The advantage of the project grant is that the federal government can control the use of funds closely, through both the selection process and the terms of the individual grant. This permits specific targeting of funds to particularly needy areas, providers with proven performance, or areas where capacity development is particularly important. However, the unequal distribution of "grantsmanship" abilities has been cited as a source of inequity in the distribution of project grants.

Categorical matching grants, like project grants, are restricted to a narrowly defined use. However, such grants are allocated by formula, and by definition require a match. The formula may consist only of a matching rate applied to the grantees' expenses, or there may be a cap based on one or more factors. Categorical matching grants are usually used to equalize the burden of providing for a specific need or to encourage spending in a particular area. Because of their specificity, their cost-sharing feature, and their flexibility to respond to the local level of demand, they are the type of grant used for several major entitlement programs, including, for example, Medicaid.

In contrast to categorical matching grants, categorical formula grants fund specific programs through lump sum transfers determined solely by formulas. This type of grant is best suited to address widespread needs that have been neglected because of lack of resources or awareness at the grantee level. In the past, categorical formula grants have funded large-scale programs such as the public service employment under the Emergency Employment Act of 1971 and CETA, and the Low Income Energy Assistance Program.

Like categorical formula grants, blocks grants are lump sum transfers allocated by formula. However, they are far more flexible, because the grantee is permitted to use them for a wide range of activities within a specified functional area. Block grants have usually been created by combining related categorical grants. This has been an important trend in intergovernmental finance since the creation of CETA in 1973, and especially since the 1981 Omnibus Budget Reconciliation Act.

Block grants are a popular compromise among three goals: targeting of funds to program areas of national interest, allowing local choice in adapting programs, and reducing inefficiencies due to heavy administrative burdens and lack of coordination among related services. The flexibility of block grants makes them more easily used to substitute for local funds and harder to target from the federal level, but increases the incentives for performance, the development of local planning capacity, and the integration of grant-supported activities with other local government functions.

The Job Training Partnership Act (JTPA), enacted in 1982, is currently one of the larger federal programs funded through a formula-driven block grant. In Program Year 1985 (PY85) the U.S. Department of Labor distributed over $2.9 billion to states to fund programs under various titles of the Act. The vast majority of funds ($1.88 billion) were distributed under Title IIA to support employment and training programs for economically disadvantaged adults and youth. An additional $284 million was made available under Title IIB for the operation of summer youth employment programs. Title III of of JTPA allotted over $220 million in formula funding to states for the provision of training and reemployment services to displaced workers.

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Since JTPA was implemented considerable attention has been devoted to the adequacy of these allocation formulas. The vast majority of concern has focused on the Title IIA and IIB formula, since it is responsible for distributing over 90 percent of the JTPA grants to states. In addition, nearly 600 local service delivery areas are directly affected by this formula. Concerns have been raised regarding the ability of the formula to provide stable year-to-year funding. Others have criticized the formula for not adequately targeting funds to central cities where there are sizeable concentrations of labor market problems. Still others have argued that the formula is not equitable because the underlying data do not reflect current economic conditions.

Prompted in part by concerns raised by practitioners and policy makers, the U.S. Department of Labor commissioned a research study in July 1985 to explore the problems with, and possible alternatives to, the current Title IIA and IIB allocation formula. The objectives of the study, as specified in the Request for Proposals, were to conduct:

- A comparison of the distribution of JTPA funds and the geographic distribution of program eligibles.

- A critical survey of data bases and data items available (or potentially available) for use in JTPA allocation formulas at the state and county levels.
- A comparative analysis of alternative JTPA allocation formulas, examining the degree of correspondence with the distribution of program eligibles and other criteria.

1.1 Criteria for Assessing the JTPA Title II Allocation Formulas

To systematically address these issues we developed a framework of four criteria to assess the current Title IIA and IIB allocation formula as well as various alternatives. The framework emphasizes several general qualities that all funding formulas should encompass. Simultaneously, however, our criteria are also designed to reflect the key concerns specifically raised about the JTPA Title IIA and IIB formula. As such, dimensions of this framework served both to focus our research on the extent and nature of existing allocation problems as well as to provide guidance in assessing the viability of alternatives. The four dimensions of this review framework include:

1. Distributional Equity and Consistency with Legislative Objectives: Do the formulas promote the equitable allocation of grant funds, as defined or implied by the Act?
2. Funding Stability: Does the formula provide stable and predictable funding on a year-to-year basis?
3. Data Quality: Are the data underlying the formula of sufficient quality to accurately measure the labor market concepts embodied in allocation formulas?
4. Simplicity and Intuitive Appeal: Can the formulas be understood by those who have an interest in the allocations made through it? Do their design and operation hinder or accommodate public scrutiny and debate?

Distributional Equity and Consistency of Formula with Legislative Objectives

JTPA, like many federal grant-in-aid programs, has specific goals, objectives, and target groups to whom services are to be delivered. Under Title IIA, the Act specifies that funds are to serve economically disadvantaged members of the local population who are at least 16 years of age. JTPA further specifies sub-groups of the disadvantaged population that are to receive special targeting priority, including high school drop-outs and welfare recipients. Similarly, Title IIB mandates that the majority of funds be targeted to economically disadvantaged youth aged 16 to 21. It therefore follows that an important criterion for assessing the JTPA allocation formulas is the extent to which the distribution of funds is consistent with the geographic distribution of the eligible and targeted population. A high degree of consistency in this regard promotes the overall goal of distributional equity.

Funding Stability

A second key criterion is the formula's ability to provide stable funding on a year-to-year basis. Although the distribution of funds must change as relative needs change, an allocation formula must also be designed to insure some degree of stability and predictability at the local level. Both institutional development and performance are likely to suffer if frequent funding changes force program managers to concentrate on building up or phasing out activities. Such an atmosphere can have a negative impact on both short-term performance and long-term capacity development.

Data Quality

A critical aspect in determining the suitability of a formula is the availability and quality of the underlying data. The data must first be assessed according to how well it measures the corresponding formula factor. That is, if a formula distributes funds based on an area's share of unemployment, it is important to assess how well the selected data base actually measures unemployment. If the data base cannot directly measure the formula factor it is then important to assess whether it provides an adequate "proxy" for the actual factor. This is critical since a proxy measure (e.g., using the distribution of the total poverty population as a substitute for the youth poverty population) increases the possibility of an inequitable distribution of funds.

The currency of the information is a second issue in assessing the suitability of data underlying the allocation formula. Outdated information may no longer reflect the distribution of the labor market problem or target population for which the funds are being allocated. The use of such data could similarly promote inequities by over- or underfunding areas relative to their current needs.

Simplicity and Intuitive Appeal

A final general criterion by which the JTPA formula will be judged is its clarity and accessibility to practitioners and the public. The accessibility of a formula is an important but often neglected criterion. Both the success of a grant program and its legitimacy depend in part on the conceptual and practical accessibility of the formula. At the conceptual level, it is important for those who have a stake in the formula allocation (including grantees and the interested public) to understand the formula and its relevance to the problem being addressed. At the practical level, practitioners need access to information to facilitate both the implementation of the grant program and input into debate on improving the grant.

To be accessible a formula must rely on factors that are widely understood, recognized as appropriate, and based on widely available data. A factor that is obscure or apparently arbitrary is likely to create doubts about the fairness of the allocations. The wide availability of data contributes to the openness of the allocation process and helps interested parties to predict and verify funding levels for their jurisdictions.

1.2 Data Sources for Conducting the Research

Conducting an assessment of the JTPA Title IIA and IIB allocation formula required an extensive amount of data from a wide variety of sources. Of particular importance were actual state and SDA funding information and the factor data that underlie the allocation. A second type of critical data was information on the characteristics and distribution of various populations which may reflect labor market needs to be targeted by a funding formula. Our primary sources of these data are reviewed briefly below.

The 1980 Census Public Use Sample. These data were primarily used to examine the distribution of the eligible population as well as their socioeconomic characteristics. In addition, the 1980 Census was also used to examine the characteristics of the unemployed population who currently play an influential role in determining the geographic distribution of JTPA funds.

The 1985 Current Population Survey March Work Experience Supplement. This data source was examined primarily to determine its viability as a potential source of more current information on the distribution of the JTPA-eligible population. Additionally, using these data, the distribution of the eligible population, as determined by several definitions, was reviewed.

Service Delivery Area Data File. This data file contains detailed information on PY84 and PY85 JTPA allocations received under JTPA Titles IIA and IIB. The data were obtained through a special survey conducted by the National Association of Counties. These allocation data have been supplemented by data on a number of other characteristics of service delivery areas including the size of their eligible population, the size of their unemployed population, and various other descriptive characteristics. These data were made available by the U.S. Department of Labor and the National Alliance of Business.

State-Level Data File. This data file contains various pieces of information on each state, largely gathered from a variety of published sources. Specifically, the file includes PY84 and PY85 Title IIA allotment data, information on the concentration of various JTPA target groups, data on all factors required to calculate state funding allotments, and poverty data from the 1970 and 1980 Censuses.

Where the above data were inadequate to assess various formula alternatives, simulations were constructed and run using published data from the Geographic Profiles of Employment and Unemployment and public use tapes from the March Work Experience Supplement of the Current Population Survey.

1.3 Organization of the Report

The remainder of this report is divided into five chapters. Chapter 2 reviews the JTPA Title IIA and IIB allocation formula. Included in this chapter is a description of exactly how the formula works as well as a summary of major problems and concerns that have arisen since they were implemented in 1983.

Chapter 3 assesses the distributional equity of the current formula. Particular attention is devoted to the geographic distribution of target populations underlying the formula factors and the extent to which they overlap. In addition, the chapter explores the impact that the current "two-tier" distribution process exerts on funding equity.

Chapter 4 addresses the issue of funding stability. Focusing primarily on the service delivery area level, we first examine the scope and dimensions of the issue by comparing Title IIA and IIB funding changes from PY84 to PY85. We then examine the causes of funding changes, focusing extensively on the two unemployment-based measures currently included in the formula.

Chapter 5 addresses the adequacy of data and data sources that support the current allocation formula. Of particular concern is the outdated nature of the decennial Census, which is currently the sole source of estimates of the economically disadvantaged population.

The final chapter of this report assesses a number of alternatives to the current allocation formula. Based on the research presented in the previous chapters, we review a number of options that can more effectively promote distributional equity, data accuracy, and increased funding stability. These alternatives range from minor modifications of the current formula to the incorporation of major new factors and data bases.

For the convenience of the reader, much of the presentation of data will be summarized and incorporated in the text. More detailed data tables are included in an Appendix and will be referenced in the text with the prefix "A" (e.g., Exhibit A.12). A second Appendix (B) presents a brief review of the use of allocation formulas in recent employment and training legislation.

2.0 THE JTPA TITLE II ALLOCATION FORMULA

2.1 Overview and Background of the Formula

The Job Training Partnership Act funds programs for the economically disadvantaged under two major components of Title II. Title IIA funds a variety of job training initiatives for eligible adults and youth, while Title IIB establishes the summer youth employment program. Both segments of Title II rely on one allocation formula, which is specified in several sections of the legislation. Sections 201 and 202 respectively cover Title IIA "allotments" to states and within-state "allocations" to service delivery areas (SDAs), while Section 251 of the Act mandates that the formula specified for Title IIA also apply to the Title IIB summer program. These sections specify that each program year, Title IIA and IIB funds are to be distributed to states and SDAs based on the following factors and weights:

- 33 1/3 percent based on relative number of unemployed individuals living in areas of substantial unemployment (ASUs).
- 33 1/3 percent based on relative excess of unemployed individuals.
- 33 1/3 percent based on relative number of economically disadvantaged (ED) individuals.

These factors and accompanying definitions are presented in Exhibit 2.1.

Several additional features of the formula should also be noted:

- Each state receives, at a minimum, one quarter of one percent (.0025 percent) of the funds made available for allotment. This provision acknowledges the fixed cost component of program administration and insures that small states or states with comparatively healthy economies have sufficient funds to operate a program.
- Each state, at a minimum, is to receive 90 percent of its allotment percentage of the previous fiscal year. This "hold harmless" provision was legislated to minimize potentially destabilizing fluctuations in funding at the state level. Unlike a similar component under CETA, this provision only guarantees a minimum percentage share of national funds rather than a minimum dollar level.

Exhibit 2.1

JTPA Title II Formula Factors, Weights, and Associated Definitions

	Factor	Definitions
(A)	33 1/3 percent shall be allocated on the basis of the relative number of **unemployed individuals residing in areas of substantial unemployment** in each service delivery area as compared to the total number of such unemployed individuals in all such areas of substantial unemployment in the State.	The term "area of substantial unemployment" means any area of sufficient size and scope to sustain a program under Part A of Title II of this Act and which has an average rate of unemployment of at least 6.5 percent for the most recent twelve months as determined by the Secretary. Determinations of areas of substantial unemployment shall be made once each fiscal year.
(B)	33 1/3 percent shall be allocated on the basis of the relative **excess number of unemployed** individuals who reside in each service delivery area as compared to the total excess number of unemployed individuals in all service delivery areas in the State.	The term "excess number" means the number which represents the number of unemployed individuals in excess of 4.5 percent of the civilian labor force in the service delivery area or the number which represents the number of unemployed individuals in excess of 4.5 percent of the civilian labor force in areas of substantial unemployment in such service delivery area.
(C)	33 1/3 percent shall be allocated on the basis of the relative number of **economically disadvantaged** individuals within each service delivery area compared to the total number of economically disadvantaged individuals in the state except that the allocation for any service delivery area described in section 101(a)(4)(A)(iii) shall be based on the higher of the number of adults in families with an income below the low-income level in such area or the number of economically disadvantaged individuals in such area.	The term "economically disadvantaged" means an individual who has, or is a member of a family which has, received a total family income (exclusive of unemployment compensation, child support payments, and welfare payments) which, in relation to family size, was not in excess of the higher of (i) the poverty level determined in accordance with criteria established by the Director of the Office of Management and Budget, or (ii) 70 percent of the lower living standard income level.

Source: Public Law 97-300, October 13, 1982.

Title IIA and IIB resources are allocated under this formula using a two-tier process that begins with the U.S. Department of Labor. In the first stage, the Secretary of Labor awards an allotment to each state based on its relative share of the three formula factors noted above. The governor, in preparation for stage two, sets aside 22 percent of this allotment for state programs and administration.[1] The remaining funds are then divided into three equal size funding pools, to which the three-part formula is again applied to determine SDA allocations. The net result is that the funds allotted to a state on the basis of its economically disadvantaged share, for instance, do not necessarily retain their "economically disadvantaged identity." That is, the funds are repooled to form a new state pool from which SDA allocations are determined. This rather complex but critical feature of the resource distribution process will be described in more detail in the following section.

Adoption of the current JTPA allocation formula was, like that of most grant-in-aid programs, the outcome of considerable negotiation over how to best meet the objectives of the Act and satisfy funding concerns of state and local Congressional representatives. Our discussions with Congressional staff revealed that identifying the "winners" and "losers" associated with the different formula options was as important as crafting a formula that best reflected the spirit and intent of JTPA.

In the final negotiation stages in 1982, two allocation formulas were being seriously considered by Congress. One, offered by the Senate, proposed to distribute funds on the basis of:

- 50 percent on the basis of the relative number of long-term unemployed
- 50 percent on the basis of the relative number of economically disadvantaged persons in the labor force.

The House of Representatives, in contrast, advocated a four-part formula that was based on the following factors and weights:

- 25 percent on the basis of the relative number of unemployed persons

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[1] The 22 percent set-aside only applies under Title IIA. In contrast, 100 percent of Title IIB funds are allocated to the SDAs.

- 25 percent based on the relative number of unemployed persons in excess of 4.5 percent of the civilian labor force
- 25 percent on the basis of the number of unemployed persons residing within Areas of Substantial Unemployment (ASU)
- 25 percent on the basis of relative number of adults in families below the low income level.

What emerged from the final negotiation process was a three-factor formula that clearly borrowed concepts from both proposals. Although the legislative history and intent is not fully documented, our discussions with Congressional staff and our review of the proposed legislation suggest that a number of objectives were encompassed in the formula. It appears that one strong objective was to minimize the degree of change caused by switching from the last CETA formula to a new JTPA formula. As a result, several concepts, including "economically disadvantaged" and "area of substantial unemployment," were directly carried over and incorporated into the JTPA formula. Despite the relative complexity of both factors, practitioners had become comfortable with the concepts by the early 1980s.

A second priority in the negotiations was to design a formula that reflected the intent of the legislation. This clearly explains the inclusion of the economically disadvantaged factor that insures that at least a portion of the funds are distributed consistently with the distribution of the eligible population. The use of the two threshold-based unemployment measures also appears to reflect an intent to target funds to areas of particular economic distress. That is, by using measures with "cut-off" the Congress established more restrictive definitions which were intended to direct resources to those areas most in need of funds.

The heavy weight given to the two unemployment-based factors also reflected a major concern with data currency. It was widely understood that Census-based information would become increasingly outdated as the decade progressed. Unemployment-based formula factors, however, could be updated annually and used to keep the formula reflective of changing economic conditions.

Finally, it appears that the formula was structured in its final form partially out of a desire for simplicity. This is primarily reflected in the design and use of one allocation formula that applies to both Titles IIA and IIB. In spite of major differences in program goals and design, Congressional staff members seemed to feel that multiple formulas would unnecessarily complicate and fragment the legislation.

2.2 How the Formula Works

The distribution of resources under Title II is a highly structured process in which both the Secretary of Labor and the governors play pivotal, though limited, roles. For the most part, the funding allocation process works the same under Titles IIA and IIB. The brief description that follows will note any relevant differences.

Based on the level of funds determined by the Congress, the Secretary of Labor establishes a total funding pool to be allotted to states for Title IIA or IIB activities in the upcoming program year. The total amount is subdivided by the Secretary into three equal pools that are each assigned to one of the formula factors. A portion of each pool is awarded to states based on their relative shares of the associated factor population. For instance, if state X has eight percent of the nation's ED population, it is entitled to eight percent of the funding pool assigned to the ED factor. The eight percent is referred to as the state's "ED factor share." Using this approach, the following factor shares are calculated for each state:

- **The proportion of all economically disadvantaged (ED) residing within each state.** Estimates of the size and distribution of the ED population have been generated from the 1980 Census. To date, of these estimates have not been revised. As a result, states' shares of the economically disadvantaged population have remained unchanged since the implementation of JTPA.

- **The proportion of all excess unemployed residing within each state or within areas of substantial unemployment within the state.** The necessary unemployment and civilian labor force data are generated by the Current Population Survey and the Local Area Unemployment Statistics (LAUS) program and are made available to each state by the Bureau of Labor Statistics (BLS).

- **The proportion of all unemployed persons living in "areas of substantial unemployment" (ASUs) residing within each state.** If the state has an unemployment rate of 6.5 percent for the reference period then the entire state is declared an ASU. For allotment purposes, every unemployed individual is considered to live in an ASU. If however, the state unemployment rate is less than 6.5 percent, the State Employment Security Agency is responsible for identifying those sub-state areas that qualify for ASU status. The Employment and Training Administration (ETA) provides guidelines and technical assistance to the SESAs to insure that calculations are done consistently and to the states' funding advantage.

After each state's factor shares are calculated, they are applied to the three equal funding pools that were initially established by the Secretary. Thus, each state's total allotment is the sum of the funds awarded from each of the factor pools.

Prior to making a final allotment to the governor, the preliminary tally is checked to insure that each state's share of the total national monies is at least ninety percent of the share received the previous year. If some states are underfunded by this criteria, then resources are reallocated from the remaining states until all are brought up to the ninety percent level.

Once a final state allotment is determined it is officially awarded to the governor. Under Title IIA, the governor automatically sets aside 22 percent of the allotment for administrative purposes and statewide programs. The remaining 78 percent is designated for sub-state distribution to the SDAs. (It should be noted that the governor does not retain any funds under Title IIB.)

Much like the Secretary of Labor, the governor first divides the remaining funds into three equal factor pools to which the SDA factor shares are applied. It should be stressed that the formation of these three equal factor pools occurs regardless of the original composition of the state allotment. That is, even if, for example, 65 percent of a state's allotment had been the result of its share of excess unemployment, only one third (33 percent) of the funds would be distributed to SDAs according to this factor. This repooling step (which reduces the 65 percent to 33 percent) is at the heart of the current "two-tier" distribution process.

Once the three equal pools are established, the following SDA factor shares are calculated:

- The SDAs share of the state's ED population. These data are generated from the decennial Census and are provided to the governor by ETA.

- The SDAs share of the state's excess unemployment. Similar to the state level figures these data are generated by BLS through the LAUS program. Calculations may be based on either the civilian labor force of the entire SDA or just that portion within areas of substantial unemployment.
- The SDAs share of the state's ASU unemployment. These calculations are the responsibility of the SESA and are not based on any uniform national guidelines or procedures.

It is particularly important to understand this phase of the distribution process since it will be assessed quite extensively in Chapter 3. It therefore may be helpful to review it with an example. Suppose State A had factor shares that resulted in a Title IIA allotment composed of the following components:

- 50 dollars based on share of ED population
- 30 dollars based on share of excess unemployment
- 20 dollars based on share of ASU unemployment
- 100 dollars total allotment

Of the 100 dollar allotment, the governor sets aside 22 dollars for state programs and designates the remaining 78 dollars for allocation to the SDAs. The 78 dollars is divided into three equal size pools (26 dollars each) for sub-state distribution. Each SDA then receives an allocation that is based on its relative share of the state's ED, excess unemployed, and ASU unemployed population. This total is the SDA's full allocation and is not affected by the previous year's funding level or share.

2.3 Summary of Problems and Concerns with the Formula

In July, 1986 the Job Training Partnership Act entered its third full program year after a nine month transition period from CETA. Since the availability of funding is such a critical concern under the JTPA program, it is not surprising that the allocation formula underwent considerable scrutiny during this period. A variety of concerns and constructive criticisms have been forthcoming from a number of sources including local practitioners, state administrators, public interest groups, USDOL representatives and public policy analysts. Most who have become familiar with the resource distribution process under Title II agree that the formula is less than ideally structured. The nature and priority of concerns, however, varies considerably. The most commonly raised criticisms can be classified into three broad categories, including (1) funding stability, (2) inequities resulting from the formula specification and design, and (3) data quality. These will be reviewed briefly below since many of the identified problem areas form the basis for much of the research conducted during this project.

2.3.1 Funding Stability

The most commonly voiced issue, particularly from the practitioner community, concerns the inability of the current allocation formula to adequately stabilize local funding from year to year. This is a critical issue at the local level since swings in funding (especially cuts) can seriously impair an SDA's ability to establish a permanent and credible service delivery capacity. Particularly when there is an overall shortage of job training resources, unexpected swings in funding impede the strategic planning, staff development, and coordination that is so crucial in building a quality organization.

Although SDAs have only been funded for three program years, much concern has been voiced over the stability of allocations. For instance, a National Association of Counties survey indicated that over 50 percent of the SDAs experienced funding cuts between PY84 and PY85. Several SDAs reported losses as high as 75 percent. The stability issue undoubtedly has been exacerbated by the limited resources available for operating JTPA programs. The issue has also attracted attention since it stands in contrast to overall legislative efforts to inject stability into the system through such features as forward funding, and the two year planning cycle.

As was noted above, the legislation contains a hold harmless provision insuring states a minimum of ninety percent of their previous year's share of funding. Many local practitioners feel that while this provision indirectly moderates local funding changes, it does not fully protect the SDAs. Not surprisingly, the majority of SDAs appear to support the JTPA amendments proposed by Senator Quayle which include a provision to allow the governor to implement a hold harmless provision on sub-state allocations.

2.3.2 Inequities Resulting from the Formula Specification and Design

As currently designed and weighted, the allocation formula does not fully reflect the primary goals and priorities of Titles IIA or Title IIB. As noted earlier, the goals of the legislation as well as the criteria for eligibility strongly emphasize the provision of program services to the "economically disadvantaged." This is an income-based concept which is clearly designed to identify and serve that segment of the population that has not achieved full economic self-sufficiency.

Service to the poorer populations is further emphasized by the Title IIA targeting priorities which specify that welfare recipients and economically disadvantaged high school dropouts be served in proportion to their incidence in the eligible population. In addition, the Act mandates that 40 percent of Title IIA funds be spent on economically disadvantaged youth.

In spite of this considerable emphasis on serving a poverty-based clientele, only one third of the Title IIA funds are directly distributed based on relative shares of the economically disadvantaged population. In addition, the allocation formula includes no factors which directly reflect the distribution of the targeted population sub-groups emphasized in the Act. Ironically, two thirds of the Title IIA funds are distributed based on relative shares of the unemployed population (excess and ASU) which is a sub-group receiving little direct attention in the legislation.

Similar inconsistencies are cited with respect to Title IIB. Like Title IIA, eligibility for the summer program is determined by income through assessing the applicants' economically disadvantaged status. Unlike Title IIA, however, there is an age cap of 21 years which accompanies the eligibility criteria. Again, just one of the three formula factors (33 percent weight) directly represents the economically disadvantaged population and no aspect of the formula reflects the exclusive youth focus of the Title IIB program.

One criticism commonly cited by representatives of urban areas is the perceived inability of the formula to target Title IIB funds to the central cities. The underlying equity premise is that since the central cities contain the largest concentrations of economically disadvantaged youth they should receive a commensurate share of the funding. This issue became such a strong concern that a supplemental summer allocation was passed by the Congress for PY84 and PY85. Although ostensibly allocated to mitigate system-wide funding shortfalls, the supplemental allocation actually targeted additional funds to central cities, in part addressing this equity concern.

Concerns over the equitability of funding have also been raised in the context of the two-tiered distribution process in which funds are first allotted to the governors who in turn determine allocations to the SDAs. It has been argued that the repooling of funds at the state level prior to local distribution has the potential of creating inequities in SDA funding by distorting the composition of the state allotment. Since the impact of this repooling differs in each state it is possible that SDAs in two different states with similar formula factors may end up with quite different allocations.

2.3.3 Data Underlying the Formula

Concerns have also been raised regarding the accuracy and currency of data supporting the formula factors. The most widely discussed issue is that of the currency of estimates of the economically disadvantaged population. Since these data were needed for every SDA receiving funds, the only sufficiently detailed data source available was the 1980 Census. As a result, the estimates that were originally generated for the JTPA transition year are still in use today. They are currently 7 years old and will be at least 12 years out-of-date before new Census data are available. The concern here is that the geographic distribution of the ED population in 1979 differs considerably from the distribution 7 (or 12) years later. Consequently, states and SDAs may be either over- or underfunded depending upon how dramatically their share of the economically disadvantaged population has shifted since 1980.

In addition to the issue of currency, the estimates of the economically disadvantaged population have also been criticized for not fully meeting the specifications mandated in the legislation. Specifically, the Act establishes a threshold family income from which ED status is determined for allocation purposes. The legislation also notes that ED status is to be established after child support, unemployment insurance and welfare payments are excluded from the family income total. Limitations of the 1980 Census prevent these exclusions from being fully and accurately considered when determining an area's share of the ED population for allocation purposes. As noted above, the issue again is that the distribution of such supplementary income sources may not be uniform either within or across states and that a maldistribution of funds may result.

Various concerns have also been raised regarding the use of unemployment-based data which underlie the remaining two formula factors in the Title IIA and IIB formula. At a general level, a recent study conducted by the Joint Economic Committee of the U.S. Congress criticized JTPA for using local unemployment data for resource allocation purposes (U.S. General Accounting Office, 1985). It is their contention that these data, which are generated for sub-state areas by the Local Area Unemployment Statistics (LAUS) program, systematically undercount unemployment in rural areas. As a result of the heavily weighted use of these data, predominantly rural SDAs, it is argued, are being inequitably treated.

A final data related issue concerns the use of the "Area of Substantial Unemployment" (ASU) factor. As a factor designed to target funds to areas with significant concentrations of unemployment, the measure has solid conceptual appeal. From a practical perspective however the identification and measurement of ASUs is a highly complex process which is subject to a tremendous amount of local interpretation and variation. Particularly at the sub-state level, very little effort has been devoted to insuring that ASUs are designated correctly and consistently across the country. As a result, the calculation of local shares are often subject to considerable variation making it difficult to know if this factor is actually targeting funds as intended.

3.0 DISTRIBUTIONAL EQUITY UNDER THE TITLE II ALLOCATION FORMULA

The purpose of this chapter is to discuss how "equitably" Title IIA and IIB funds have been distributed to SDAs under the Job Training Partnership Act. To adequately address this issue, we first review several interpretations of equity that may reasonably apply to the JTPA program. This is followed by an analysis of the extent and causes of inequities which have resulted from the use of the current allocation formula. For purposes of this analysis, however, we have adopted one of these concepts of equity based on its simplicity and consistency with the objectives of JTPA Title II. Its specific premise is that Title II resources should be distributed in direct relation to the distribution of the eligible (economically disadvantaged) population. As a result, each SDA's per capita funding level (dollars per JTPA eligible) would be identical and thus perfectly equitable.

Using this perspective, this chapter attempts to determine the underlying causes of existing funding inequities. The first possible cause we explored is the influence exerted by the nature and distribution of the population underlying the allocation formula factors. Our equity criterion suggests that resources should be primarily targeted to the economically disadvantaged. The current weighting of the allocation formula, however, heavily favors targeting to the unemployed population as embodied in the excess and ASU factors. The key question thus becomes: Does this have any adverse impact on the equitable distribution of funds? If the geographic distribution of the two populations are quite similar, then the formula will successfully target funds towards the JTPA eligibles, thus promoting equity. If, however, there is not a high degree of overlap between the economically disadvantaged and the unemployed population, the comparatively high weights associated with the excess and ASU unemployed factors (66 percent) will likely draw money away from areas with high concentrations of eligibles. This would serve to reduce the equitability of the resource distribution process.

To explore this issue, we used 1980 Census data to examine the distributions of the ED and unemployed populations across regions and geographic areas (e.g., central city, rural). We also used these data to review the characteristics of both groups to determine the degree of overlap between the two. Specifically, we are interested in answering the question: What proportion of the economically disadvantaged are unemployed and what proportion of the unemployed are economically disadvantaged? If there is not a high degree of overlap between these two groups, it would suggest that the formula is not structured consistent with the objectives of the legislation, and therefore not capable of fully promoting funding equity from the perspective described above.

The second possible cause of funding inequities we explore is the two-tier distribution process. Of particular concern is the step in which the governor repools the state allotment into three equal size portions, regardless of the original composition of the grant. Under this process, funding equity could be adversely affected if monies originally brought in by the ED factor were systematically diverted to the other two funding pools to insure they were of equal size prior to sub-state distribution to SDAs. Such a scenario would exert an adverse impact on equity since it reduces the extent to which areas are funded consistent with their share of the eligible population. In this chapter we will use actual allotment factors for PY85 Title IIA to determine the extent of repooling that was required by the governor. More importantly, however, we will explore the extent to which funds that were originally associated with the ED factor were "reduced" in order to comply with the repooling features of the existing two-tier distribution process.

The final section of this chapter reviews alternatives to the current distribution process from the perspective of improving the distributional equity under Titles IIA and IIB. We explore several options, including a direct federal allocation in which money flows directly from the federal to the local level and a process which retains the current two tiers but eliminates the repooling step briefly described above.

3.1 Perspectives on Distributional Equity

There is no universally accepted definition of equity. Rather, there are several perspectives on this concept that are relevant and potentially applicable to JTPA. One commonly acknowledged notion of distributional equity is based on the premise that program resources should be distributed in a manner consistent with the distribution of labor market problems which JTPA is mandated to address. This notion of equity suggests that a state or SDA's funding level should be directly linked to its share of the JTPA eligible population (e.g., economically disadvantaged). Although no SDA allocation will ever be sufficient to serve all those in need, the size of the eligible population is a good proxy for the relative magnitude of labor market problems to which JTPA is targeted. It would thus seem "fair" that the areas with the highest share of relevant labor market problems should receive the largest share of the resources available to address those problems.

A review of the distribution of Title IIA and IIB funds indicates that the current allocation formula does not fully promote this concept of distributional equity. We examined this issue by comparing the geographic distribution of the economically disadvantaged population and the PY85 Title IIA and IIB allocation data. The results of this comparison are presented in Exhibits 3.1 and 3.2 and are summarized below. To assist in reviewing these and the ensuing tables, a map of the Census regions is contained in Exhibit A.1.

- The East North Central is the most significantly overfunded regions, receiving 21.5 percent of the PY85 IIA funds yet having only 15.6 percent of the economically disadvantaged population. In contrast, two regions are somewhat underfunded using this equity criterion: the South Atlantic contains 16.8 percent of the ED population yet only receives 14.5 percent of the Title IIA funds; the West South Central region is underfunded by 1.4 percentage points (10.2 versus 11.6).
- Urban areas (SDAs containing a central city larger than 200,000 people) are particularly underfunded in relation to the resident ED population. These SDAs contain 33.4 percent of the eligible population yet receive only 29.2 percent of the Title IIA funds.[1]
- A similar gap exists between the distribution of Title IIB funds and ED youth (ages 16-21). In this case, 34.5 percent of the target population live in urban areas yet these areas receive only 29.2 percent of the Title IIB funds. This dis-

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[1] The classification of SDAs into a geographic type was based on a combination of two data sources. Urban was defined as any SDA containing a central city in excess of 200,000 population. Rural SDAs were based on a self-classification which was done as part of a NAB survey of SDAs and PICs. All those SDAs that did not meet the population criteria for "urban" or were not self-classified as "rural" were placed in the "mixed" category.

Exhibit 3.1

Distribution of PY85 Title IIA and Title IIB Funds, And The Eligible Population by Region And Type of Area

	TITLE IIA				TITLE IIB				
	A	B	C	D	E	F	G	H	I
Region*	PY85 IIA Funds	E.D. (Total)	E.D. (Eligibles)*	Difference (A-B)	E.D. (16-21)	PY85 IIB Funds (Formula)	PY85 IIB Funds (Supplemental)	PY85 IIB Funds (Total)	Difference (E-F)
New England	4.0%	4.6%	4.7%	-0.6%	4.5%	4.7	8.1	5.2	.2
Mid Atlantic	15.1	16.0	16.0	-0.9	15.2	15.4	23.7	16.5	.2
East North Central	21.5	15.6	15.2	5.9	15.8	21.1	23.7	21.4	5.3
West North Central	6.0	6.6	6.7	-0.6	6.6	6.1	7.0	6.2	-.5
South Atlantic	14.5	16.8	17.0	-2.3	16.7	14.8	19.2	15.3	-1.9
East South Central	8.4	8.5	8.4	-0.1	8.2	8.3	3.9	7.8	.1
West South Central	10.2	11.6	11.3	-1.4	11.5	9.9	4.8	9.3	-1.6
Mountain	4.8	5.3	5.2	-0.5	5.8	4.8	2.3	4.4	-1.0
Pacific	15.1%	14.7%	15.0%	0.4	15.3	15.0	7.4	14.0	-.3
	100.0%	100.0%	100.0%		100.0%	100.0%	100.0%	100.0%	
Type of Area									
Urban (cc >200,000)	29.2%	33.6%	33.4%	-4.4	34.5	29.3	51.1	32.2	-5.2
Rural	31.2	30.0	30.0	1.2	29.2	30.9	12.0	28.4	1.7
Mixed	39.5%	36.3%	36.5%	3.2	36.2	39.8	36.9	39.4	3.6
	100.0%	100.0%	100.0%		100.0%	100.0%	100.0%	100.0%	

*See map in Exhibit A.1.

**Eligible population defined as age 16 and over.

Sources: NACO Survey of SDA Allocation
USDOL published allocation data
USDOL Census estimates of the economically disadvantaged population.

Exhibit 3.2

JTPA Title IIA and IIB Dollars Per Economically Disadvantaged By Region and Type of Area

	Title IIA		Title IIB	
	Dollars/ED (Total)	Dollars/ED (Eligibles)	Formula Dollars/ E.D. Youth	Total Dollars/ E.D. Youth**
Region*				
New England	$31.10	$45.29	$151.34	$189.21
Middle Atlantic	36.93	53.64	154.01	185.27
East North Central	53.86	79.50	208.28	224.92
West North Central	34.33	49.32	135.81	155.32
South Atlantic	29.30	42.08	119.75	147.20
East South Central	35.36	51.62	146.98	158.54
West South Central	30.62	45.66	119.94	129.07
Mountain	34.30	52.70	125.13	133.68
Pacific	$40.49	$58.61	$149.98	$160.17
Type of Area				
Urban (cc >200,000)	$31.10	$45.81	$116.50	$146.03
Rural	38.55	56.43	155.91	166.57
Mixed	$39.56	$57.93	$157.50	180.75
Mean	$38.06	$55.77	$151.09	$170.08

*See map in Exhibit A.1.

**Total dollars/ED youth is the sum of the formula allocation plus the supplemental allocation.

Sources: NACO Survey of SDA Allocations
USDOL Census estimates of the economically disadvantaged population

crepancy was partially alleviated through the targeting of a Title IIB supplemental allocation to central cities.

- Using a "per capita" measure of equity (dollars allocated per JTPA-eligible resident),[2] a similar pattern emerges. Using the U.S. average as a point of reference, we find that $55.77 is allocated for every JTPA eligible individual. In contrast, the East North Central received nearly $80 per eligible—while the South Atlantic received just over $42 per eligible. All southern regions are considerably below the national average, as is the Mountain region.

- This per capita criterion also identified discrepancies that strongly favored rural areas over urban areas. Under Title IIA, urban areas received $45.81 per ED compared to $56.43 for rural areas. Under Title IIB this discrepancy was $116.50 to $155.91, although the size of the gap did decrease as a result of the supplemental allocation.

A second interpretation of equity suggests that the distribution of program funds should reflect the distribution of the priority target populations that JTPA is mandated to serve. The Act states that SDAs are to spend at least 40 percent of their Title IIA funds on youth, and serve economically disadvantaged high school dropouts and welfare recipients in proportion to their incidence in the eligible population. This concept of equity implies that SDA allocations should, at least partially, reflect the distribution of these groups.

The current Title IIA formula does not, however, reflect these targeting priorities, which are only indirectly acknowledged through the ED factor. Exhibit 3.3 presents the distribution of several target populations and compares them to the geographic distribution of Title IIA funds. Although the data are limited to broad geographic regions, they indicate that key target populations are distributed somewhat differently from each other as well as differently from the distribution of Title IIA funds. This is clearly evident in some regions of the U.S. while in others the differences are not particularly noteworthy. In particular:

- Nearly 45 percent of the nation's AFDC recipients lived in two geographic regions in 1984: the Middle Atlantic and the East North Central. In contrast, only 32 percent of the high school dropouts lived in these regions. The two regions received approximately 36 percent of the JTPA Title IIA funds.

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[2] A JTPA eligible is an individual who is 16 years or older and economically disadvantaged.

Exhibit 3.3

Distribution of JTPA Target Populations by Region

Region*	PY85 IIA Funds	ED Youth (16-21)	High School Dropouts (16-21)	AFDC Recipients
New England	4.0	4.5	5.3	4.7
Mid-Atlantic	15.1	15.2	16.3	19.4
East North Central	21.5	15.8	15.8	24.5
West North Central	6.0	6.6	8.2	5.6
South Atlantic	14.5	16.7	14.5	12.6
East South Central	8.4	8.2	5.4	5.8
West South Central	10.2	11.5	9.1	6.5
Mountain	4.8	5.8	7.3	2.9
Pacific	15.1	15.3	18.1	17.8

Sources: 1980 Census of Population and Housing, Public Use Micro Data Sample
Social Security Administration, Office of Family Assistance

*See map in Exhibit A.1.

- The Mountain region has a much higher percentage of high school dropouts (7.3 percent) than AFDC recipients (2.9 percent). The share of Title IIA funds going to this region was 4.8 percent in PY85.

- The South Atlantic region had a somewhat greater proportion of ED youth (16.7 percent) than either AFDC recipients (12.6 percent) or high school dropouts (14.5 percent).

Although there are some regions in which the target groups are distributed fairly evenly, the existing discrepancies suggest that no one formula factor can necessarily encompass all the major targeting priorities noted in the legislation. Rather, it appears that multiple factors which directly reflect these populations would be necessary to further promote equity from this particular perspective.

A third concept of distributional equity is based on the desire to target funds to those "most in need." That is, since program funds are only sufficient to serve a small portion of the eligible population, the distribution of the scarce resources should focus on the most needy end of the broad spectrum of JTPA eligibles.

This interpretation of equity implies that the eligible population concentrated in areas of high unemployment tend to be comparatively worse off than their eligible counterparts in less economically distressed areas. In such areas there is likely to be larger concentrations of an economic underclass (e.g., high school dropouts, welfare recipients, etc.), and fewer employment opportunities. The average JTPA client in such an area is more likely to face multiple barriers to stable employment and and thus require more intensive program services. In order to deliver such services, these SDAs may require an allocation that is comparatively larger than a locale that has a more balanced complement of program eligibles.

To assess the merit of this argument, we asked the following question: Do the eligible individuals residing in areas of high unemployment have more labor market problems than those living in areas of less economic distress? To explore the characteristics of the ED population under varying unemployment conditions, we conducted the following exercise. Using PY 85 allocation data, we first ranked the states into categories based on their concentration (high or low) of excess unemployment. The states were similarly distributed based on high and low shares of ASU unemployment. Within each of these categories, the characteristics of the economically disadvantaged population were then examined to determine if the eligible population appeared to be more "in need" of services in areas where shares of the excess or ASU unemployed were particularly high.

Exhibit 3.4 presents the results and reveals a noticeable difference between the characteristics of the economically disadvantaged in areas of high and low excess unemployment. A similar contrast is noted between areas of high and low ASU unemployment.

To summarize, the data indicates that the eligible population in areas of relatively high economic distress are more likely to be:

- Out of the labor force
- Unemployed
- Unemployed for more than 15 weeks
- Receiving public assistance

This finding could serve as justification for the existing formula that is heavily weighted towards areas with comparatively large shares of unemployment. However, such justification could only be supported if it can be demonstrated that differences in economic conditions actually influenced local program planning and design issues. To date there is little such evidence.

Two research studies in particular did not report a connection between the economic conditions in an area and the type and intensity of services offered. Taggart (1981) examined the relationship between CETA prime sponsor unemployment rates and their program mix and expenditure patterns. He concluded that "Surprisingly, local unemployment... bore almost no relationship to prime sponsors' service mix decisions." Ripley (1978) also examined the correlation between unemployment rates and prime sponsor program mix and found it to be both weak and counterintuitive. Additional JTPA-specific research is required to better judge the merits of this perspective for purposes of resource allocation.

3.2 Sources of Distributional Inequities and Options for Improvement

The previous discussion reviewed several concepts of distributional equity that are relevant to an assessment of the JTPA Title II allocation formula. All have some conceptual merit and reflect varying perspectives within the JTPA system. However, for purposes of this analy-

Exhibit 3.4

Characteristics of the Economically Disadvantaged Population 16 and over in States Experiencing High and Low Excess And ASU Unemployment

Characteristics	Low Excess Unemployment	High Excess Unemployment	Low ASU Unemployment	High ASU Unemployment
Labor Force Status				
Employed Full-Time	23.1%	18.4%	23.2%	18.5%
Employed Part-Time	10.7	8.9	10.8	9.9
Unemployed	5.1	7.0	5.1	7.1
Out of Labor Force	61.1	65.7	60.9	65.5
	100.0%	100.0%	100.0%	100.0%
Unemployment Duration				
Less than 15 weeks	85.1%	78.6%	85.0%	78.7%
Greater than 15 weeks	14.9	21.4	15.0	21.3
	100.0%	100.0%	100.0%	100.0%
Public Assistance Status				
Not receiving Public Assistance	75.9%	68.3%	76.1%	67.9%
Receiving Public Assistance	24.1	31.7	23.9	32.1
	100.0%	100.0%	100.0%	100.0%
Poverty Status (Percent of poverty level)				
Below .75	51.6%	50.8%	51.7%	51.2%
.75 to .99	27.2	25.6	26.8	26.2
1 to 1.24	18.4	19.9	18.5	19.4
1.25 and above	2.8	3.7	3.0	3.2
	100.0%	100.0%	100.0%	100.0%

Source: 1980 Census of Population and Housing, Public Use Micro Data Sample
BLS estimates of excess and ASU unemployment

sis we focus exclusively on the premise that Title IIA and IIB resources should be distributed consistently with the distribution of the economically disadvantaged population. This promotes consistency between the JTPA eligible population and the allocation of program resources to serve them. While this definition of equity is not necessarily the best from all perspectives, it is simple and intuitively appealing, and most clearly encompasses the overall objectives of the Act.

In the next two sections of this chapter we will explore two factors that are potential contributors to the funding inequities that were reviewed in the previous section. Specifically, we will examine the extent to which the geographic distributions of the underlying factor populations are dissimilar and thereby preclude the full targeting on the ED population that would promote funding equity. We will also research the extent to which the current two-tier distribution process hinders funding equity.

3.2.1 Populations Underlying the Formula Factors

One possible explanation for funding inequities is that the populations underlying the formula factors have considerably different geographic concentrations. If the distribution of the populations underlying the excess and ASUs factor are different from the distribution of the ED population, the formula will inevitably create inequities since the funds will no longer be fully targeted directly toward concentrations of JTPA eligibles.

The inequities will also be influenced by the weights tied to each factor. Since the two unemployment based measures account for 66 percent of the formula weight, they could quite strongly "pull" funds away from the ED population, thus contributing to any observed inequities.

Preliminary evidence that this may be the case is provided by examining the correlation between the ED factor and each of the other two formula factors. The relationship between the size of the three factor populations in all SDAs is presented below for PY85. It should be noted that the matrix holds the influence of total population constant.[3]

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[3] Without a partial correlation, the influence of size will be overwhelming. For instance, New York or Los Angeles would likely have the greatest number of both ED individuals and excess unemployed simply because they have the most people.

Partial Correlation of Title II Formula Factors

	ED	Excess	ASU
ED	1.00		
Excess	.41	1.00	
ASU Employment	.39	.80	1.00

As can be seen, there is not a high degree of correlation between the ED count that represents an SDA's eligible population and the two unemployment-based factors (.41 and .39). There is, however, a higher degree of correlation between the excess unemployed and ASU factor (.80). This suggests, as expected, that these two factors move in tandem in influencing the Title IIA and IIB allocations. (More detailed matrices are included in Exhibits A.2 and A.3.)

Using these relationships as a point of departure, we examined the regional distribution of both the economically disadvantaged and of the total and excess unemployed populations. The results presented in Exhibit 3.5 are summarized below.

Overall the data revealed that there are quite noteworthy differences in the distribution of the ED and unemployed populations across both types of geographic areas and regions of the country. With respect to the former, the differences are particularly striking. The data indicate that over one-third of the ED population (33.6 percent) live in urban areas compared to a little over one-quarter of the excess unemployed population (26.8 percent). Conversely, over 40 percent of the excess unemployed live in mixed areas compared to 36.3 percent of the ED population.

The data also reveal a number of sizeable differences across various regions of the country. Generally, the excess unemployed are most heavily concentrated in the East North Central and Middle Atlantic regions while the economically disadvantaged population tends to be more concentrated in the South. For example, 27.4 percent of the excess unemployed live in the East North Central compared to only 15.6 percent of the ED population. While not all geographic discrepancies are this large, we can generally conclude that the two populations are quite different in terms of where they live.

Exhibit 3.5

Geographic Distribution of Populations Underlying Formula Factors

	E.D. (Total)	E.D. (16-21)	Unemployment (Total)	Unemployment (Excess)
Region*				
New England	4.6%	4.5	4.0	2.1
Middle Atlantic	16.0	15.2	15.3	15.1
East North Central	15.6	15.8	22.3	27.4
West North Central	6.6	6.6	6.4	4.8
South Atlantic	16.8	16.7	14.2	11.8
East South Central	8.5	8.2	7.7	9.5
West South Central	11.6	11.5	10.2	9.5
Mountain	5.3	5.8	4.5	3.6
Pacific	14.7	15.3	15.5	16.3
	100.0%	100.0%	100.0%	100.0%
Type of Area				
Urban (cc >200,000)	33.6%	34.5%	27.4%	26.8
Rural	30.0	29.2	28.7	32.7
Mixed	36.3%	36.2%	43.9%	40.5
	100.0%	100.0%	100.0%	100.0%

*See map in Exhibit A.1.

Sources: USDOL Census estimates of the economically disadvantaged
BLS estimates of total and excess unemployment (7/83-6/84)
Long term unemployment based on 1980 public use micro data sample.

To further illustrate the incongruity between the economically disadvantaged and the unemployed, we examined the characteristics of both population groups. Comparing characteristics from the 1980 Census, we concluded that the unemployed and the ED (both adults and youth) are quite distinct populations with only minimal overlap. The detailed results of this comparison are presented in Exhibit 3.6 and summarized below:

- Of the ED population 16 and over, only 6.1 percent were unemployed at the time of the Census. The vast majority (62.7 percent) were out of the labor force.
- Of the unemployed population, less than 20 percent were classified as economically disadvantaged.
- The ED population (16-21) is heavily female (61 percent) and poor (over 60 percent had family incomes lower than 75 percent of the poverty level). In contrast, the unemployed population is predominantly male and nearly three quarters had family incomes in excess of 125 percent of the poverty level.
- The overlap between the ED and the long term unemployed (15 weeks or more) was somewhat greater; however it was still small. Specifically, 26.1 percent of the long term unemployed were classified as ED compared to 19.7 percent of the total unemployed population. Similar disparities were noted between the economically disadvantaged and unemployed populations ages 16-21 years old.

These differences suggest a strong conceptual inconsistency between programs(Title IIA and IIB) focused on the economically disadvantaged population and an allocation formula that give two thirds weight to unemployment-based populations. The significant differences (geographic and personal) between the ED and unemployed populations coupled with the current weighting scheme result in allocation formulas that inherently promote inequities based on relative shares of the eligible population.

In light of these results, we felt it was important to address several additional issues regarding the dynamics of the funding process and its impact on equity. The first question of interest concerned the relative funding of urban versus rural SDAs. Specifically, we asked if urban SDAs received less per capita funding than their rural counterparts. Since the current formula is heavily weighted toward unemployment and because of differences between the geographic distribution between the unemployed and the disadvantaged, we would expect, holding all else constant, that urban SDAs would receive less funds for each ED individual than rural SDAs.

Exhibit 3.6

Characteristics of the Economically Disadvantaged Population (16 and over and 16-21) and Unemployed Population (Total and Long Term)

(in thousands)

	Economically Disadvantaged		Unemployed*		
	16 and Over	16-21	16 and Over		16-21
			Total	Long Term	Total
TOTAL	23,862 (100.0%)	4,199 (100.0%	20,751 (100.0%	7,150 (100.0%)	5,224 (100.0%)
Sex					
Male	38.6	38.8	53.8	56.6	52.6
Female	61.3	61.3	46.2	43.4	47.4
	100.0%	100.0%	100.0%	100.0%	100.0
Race					
White	69.7	62.2	79.8	76.2	80.2
Black	22.6	28.4	14.4	18.2	14.4
Other	7.7	9.6	5.7	5.6	5.4
	100.0%	100.0%	100.0%	100.0%	100.0%
Hispanic Origin					
Yes	10.3	13.6	7.5	7.9	7.9
No	89.4	86.3	92.5	92.1	92.1
	100.0%	100.0%	100.0%	100.0%	100.0%
Economically Disadvantaged					
Yes	100.0%	100.0%	19.7	26.1	20.8
No	—	—	80.3	73.9	79.2
			100.0%	100.0%	100.0%
Poverty Status					
Below .75	49.5	60.6	11.2	15.0	12.8
.75 0 .99	25.6	23.1	4.8	6.5	4.9
1.00 - 1.25	20.5	14.9	5.2	6.1	5.2
1.25 and above	4.4	1.4	78.8	72.4	77.7
	100.0%	100.0%	100.0%	100.0%	100.0
Labor Force Status**					
Employed Full Time	21.2	17.9	47.2	37.4	34.5
Employed Part Time	9.9	16.5	18.3	16.1	25.2
Unemployed	6.1	9.1	18.6	27.0	18.6
Out of Labor Force	62.7	56.5	16.0	19.5	21.7
	100.0%	100.0%	100.0%	100.0%	100.0%
Worked Last Year***					
Yes	90.1	91.0	90.3	83.9	88.9
No	9.0	9.0	9.7	16.1	11.1
	100.0%	100.0%	100.0%	100.0%	100.0%
High School Grad					
No	57.3	59.1	66.7	61.1	53.3
Yes	42.7	40.9	33.3	38.9	46.7
	100.0%	100.0%	100.0%	100.0%	100.0%

* Unemployed population includes anyone who experienced a spell of unemployment during the year prior to the Census

** Labor force status during the week of the Census interview

*** Includes only those who were not out of the labor force the entire year.

Source: 1980 Census of Population and Housing Public Use Micro Data Sample

The second issue we explored was the impact of increasing shares of the ED population on per capita funding. Given the intent of the legislation and the eligibility criteria, we would expect that an area should receive an increase in per capita funding to accompany increasingly severe problems of disadvantagedness.

The third issue we felt was important was the influence of an SDA's unemployment rate on overall per capita funding under the Title IIA allocation formula. In light of the limited overlap between the ED and the unemployed populations we would expect there to be an inverse relationship between an SDA's unemployment and its per capita funding level.

To address these questions we estimated three multiple regression models which allow us to determine the unique and independent contribution of various factors on SDA per capita funding levels. This dependent variable was selected for this analysis since it controls for difference in size and reflects the amount of funding available to serve an ED individual.

These three models were estimated using the following PY85 SDA characteristics as independent variables:

- Urban SDA
- Rural SDA
- Mixed SDA
- SDA's share of national ED population
- SDA's share of national ASU unemployed population
- SDA's share of national excess unemployed population
- SDA's share of national total population
- SDA's unemployment rate

Model 1 generates per capita funding figures from a formula simulation that gives the ED factor a one-third weight and total unemployment a two-thirds weight. This model was intended to replicate the actual funding formula without the potential confounding influence of the hold harmless provision. (The regression results using actual PY85 funding data are however presented for comparison and completeness in Model 3.)

Model 2 regresses the same independent variables on per capita funding generated from a simulation which reversed the relative influence of the formula factors. Specifically, this simulation gave two-thirds weight to the ED factor and only one-third weight to the total unemployment factor. This was done to determine if the results were sensitive to relative influence of the formula factor weights.

Exhibit 3.7 presents the results from Models 1 and 2. As noted above, Model 3 data are presented for purposes of completeness. As can be seen, SDAs in urban areas (those with central cities in excess of 200,000) received lower per capita funding than SDAs in rural geographic areas. This is particularly noteworthy in that these SDAs account for only 12 percent of the service delivery areas yet contain approximately one-third of the nation's ED population. Conversely, mixed and rural SDAs contain higher proportions of the unemployed population and receive comparatively higher per capita funding.

With respect to the second issue noted above, the data in Model 1 did not support the expectation that per capita funding should increase as an SDA's share of the economically disadvantaged increased. Specifically, Model 1 revealed that a 1 percent increase in an SDA's ED share will result in a $98.27 loss in per capita funding. It appears that the size and significance of the coefficient clearly reflects the disproportionate emphasis on unemployment-based factors in the current allocation formula. Under this weighting scheme any increase in the share of the ED population will result in the SDA allocation rising more slowly than the increasing ED population. As the weight of the ED factor increases, the size of the decrease in per capita funding should be reduced.

Model 1 also sheds light on our question regarding the influence of an SDA's unemployment rate on per capita funding. Initially we expected this variable to be inversely related to the dependent variable since there was such geographic disparity between the distribution of the unemployed and the ED population. However, the strength of the unemployment-based factors in the model appears to be quite sizeable. Both the unemployment rate and the ASU unemployment factor are positively and significantly associated with increases in per capita funding. Specifically, it was found that a 1 percent increase in the unemployment rate was associated with a $2.31 increase in per capita funding.

Our concern over the influence of the weighting towards unemployment suggested that we examine the same factors in a formula with reversed weighting favoring the ED measure. The regression results in Model 2

Exhibit 3.7

Determinants of PY85 IIA Per Capita Funding Using Simulated Formula with Varying Weights

Variable:	Model 1 Simulated 2/3 Unemployment 1/3 ED	Model 2 Simulated 2/3 ED 1/3 Unemployment	Model 3 Actual PY85 IIA
Constant	27.31*** (2.49)	37.42*** (1.36)	11.62*** (3.0)
Urban SDA	-2.67* (1.72)	-.99 (.938)	-4.55** (2.09)
Mixed SDA	6.23*** (1.15)	3.33*** (.628)	4.86*** (1.40)
Share national ED	-98.27*** (5.96)	-46.31*** (3.25)	-88.24*** (7.27)
Share national ASU unemployment	33.90*** (10.32)	16.36*** (5.63)	127.86*** (12.59)
Share of national excess unemployment	7.69 (7.01)	2.78 (3.82)	-30.85*** (8.55)
Unemployment rate	2.31*** (.241)	1.30*** (.131)	4.31*** (0.29)
Share national population	85.57*** (10.29)	40.87*** (5.61)	13.65 (12.55)
R^2	.51	.47	.60
F	80.1***	68.1***	115.1***

Standard error in parentheses.

*Significant at .10 on one-tailed test.
**Significant at .05 on one-tailed test.
***Significant at .01 on one-tailed test.

reveal that the direction of the relationships remains unchanged, yet the sizes of all the coefficients have been significantly reduced. It should also be noted that the "urban SDA" variable is no longer significantly associated with the dependent variable.

The findings suggest that the reverse weighting scheme, in comparison, promotes funding equity since it reduces the amount of variation in per capita funding for a given degree of change in any independent variable. Particularly noteworthy is the drop in the size of the "share of national ED" factor which dropped from -98.27 to -46.31. Although an increase in ED share still produces a drop in per capita funding it is not nearly as large as under the weighting scheme which so predominantly favored unemployment.[4]

In sum, the regression analysis confirms that the Title II allocation formula, as currently weighted, are not fully promoting the overall objectives of the JTPA legislation. Specifically, the heavy emphasis on unemployment-based factors serves to draw funds away from high concentrations of the eligible population (central cities) in favor of rural or mixed areas. We similarly confirm that an increasing share of the economically disadvantaged population in an SDA would result in decreasing per capita funding to address such a problem.

3.2.2 The Influence of the Two-Tier Distribution Process

The second potential source of funding inequity we explored was the two-tier distribution process. As was described in Chapter 2, this process requires that the Secretary of Labor first give each state an allotment based on the three factor formula. Regardless of the composition of that three part allotment, the governor is then required to repool the funds into three equal shares for allocation to the SDAs. That is, even if half of the state's allotment was the result of a disproportionately high share of the nation's ED population, only one third of the money distributed to SDAs is allocated based on this factor.

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[4] It should be noted that concern over multicolinearity in these models did not materialize. Although correlation coefficients between several key factors were high, they did not result in high standard errors and low t statistics.

The origin and rationale of this process are not fully clear, although it may serve to insure, for example, that an SDA with significant excess unemployment problems has a sufficient factor pool from which to draw its allocation. Such a concern would conceivably arise in an instance where the state overall had a comparatively small share of the nation's excess unemployment population.

As a general case, the governor's repooling step in the two-tier process works as follows. Suppose State A received its allotment based on the following factor shares and national funding data:

	A	B	C	D
	ED	Excess Unemp.	ASU Unemp.	Total
Size of national pool	500M	500M	500M	1.5B
State factor share	8%	4%	3%	15%
Factor allotment	40M	20M	15M	75M
Percentage of total state allotment	40M/75M=53.3%	20M/75M=26.6%	15M/75M=20%	

A hypothetical $1.5 billion was divided into three equal size funding pools that correspond to the three allocation formula factors. State allotments are then calculated by applying their corresponding factor share to the $500 million pool set up under each measure. In the example above, the state had 8 percent of the national ED population and therefore received 8 percent of the $500 million ($40 million) set-aside under this factor. Similarly, the state received $20 million and $15 million based on its share of the national excess and ASU unemployment population, respectively. The sum of these three sub-allotments is $75 million and represents a total state JTPA allotment.

As can be seen, the three factors were not equally responsible for "bringing in" the $75 million to the state. Rather, the ED factor was responsible for over half the funds (53.3 percent), $40 million of the $75 million total. The remaining two factors were responsible for 26.6 percent and 20 percent of the state's total, respectively.

Under the Title IIA repooling step, the governor is required to set aside 22 percent for state programs and then divide the remaining funds into three equal pools for purposes of calculating SDA allocations. Continuing with our illustration, the governor retains $16.5 million (22 percent of $75 million) and divides the remaining $58.5 million into three equal size pools ($19.5 million each), each of which represents 33 1/3 percent of the allotment to be distributed to SDAs. SDA factor shares are then applied to the three funding pools to determine a total SDA allocation.

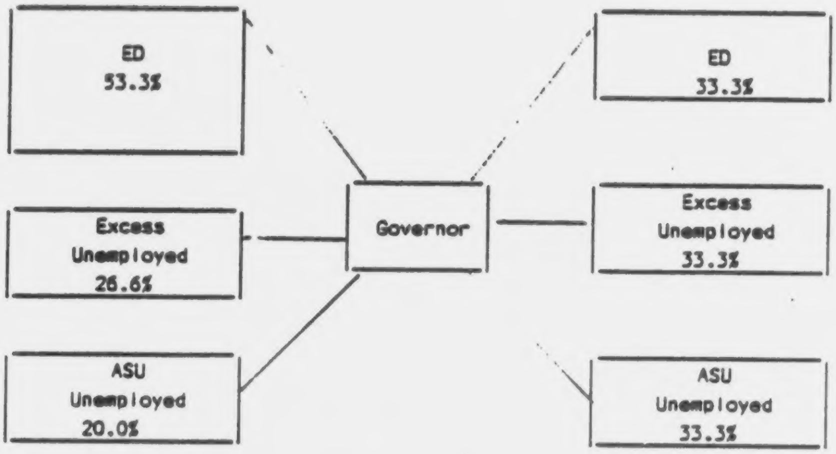
The repooling process has created a situation in which 53.3 percent of the state's Title IIA allotment was brought in based on its ED share but only 33.3 percent will be subdivided among SDAs based on this measure. The process can be illustrated as shown in Exhibit 3.8. This illustration indicates how the governor redistributes funds prior to allocating monies to the SDAs. In this particular case we see how the governor had to "reduce" the funds tied to the ED factor and "expand" the funds tied to the excess and ASU unemployment factors in order to create three equal size pools. In exploring the potential impact of this process on funding equity we posed two questions:

- How often does the repooling process result in the artificial "expanding" and "reducing" of funding pools?
- Does the process of "expanding" and "reducing" appear to affect funding equity by drawing monies away from any particular factor in favor of another?

To address the first question we examined actual PY85 factor share information and determined that virtually every governor was required to engage in some degree of redistribution in order to establish the three equal size funding pools required to allocate SDA funds (state-level detail is provided in Exhibit A.4). In fact, the only instance in which no redistribution would occur is if the state's three factor shares were identical, that is, if the state's share of the national ED share is equal to its share of the national ASU and excess unemployment population. Since the likelihood of this occurring seems highly unpredictable and subject to chance, it appears that this process has an inherently redistributive feature and thus holds potential for creating inequities. The greater the disparity among a state's three factor shares, the greater the reallocation that is needed to meet the requirements of the two-tier distribution process. (This process is described algebraically in Exhibit A.5.)

Exhibit 3.8

Illustration of Title IIA Repooling Process



The second question posed above concerns the impact of the repooling step on funds associated with a particular formula factor and the potential impact on funding equity. Specifically, if it appeared that the pool associated with the ED factor had to be "reduced" by the governor in a majority of states, then we can conclude that on balance, the process is adversely affecting overall funding equity. This is because it is diminishing the funding pool that would have otherwise been distributed based on the SDA's share of the state's ED population.

Using PY85 data, we determined the impact of the repooling step in each state with respect to either expansion or reduction of the factor funding pools. The detailed data are presented in Exhibit A.6 and are summarized below for the 52 states:

Influence of Repooling Step on Factor Funding Pools

	ED	Excess	ASU
Governor "reduced" funding pool	32	20	27
Governor "expanded" funding pool	20	32	25
Total states	52	52	52

As can be seen, the ED measure is most adversely affected by the repooling process. In 32 of 52 states, the governor was required to reduce the size of the pool to which SDAs apply their share of the disadvantaged population. In other words, in over 60 percent of the states, funds that were brought in as a result of the state's comparative share of the ED population were eventually directed to the other two factor pools in order to comply with the current distribution process. By reducing the size of the pools, SDAs with comparatively large ED shares had a much smaller total against which to calculate this portion of their total allocation.

Alternatives to the Two-Tier Formula

The previous section indicated that the repooling step resulted in some degree of redistribution in every state. More importantly, however, we observed that in PY85 this process was clearly redistributing funds that would have initially been allocated according to the local ED shares. Such redistribution has an adverse impact on funding equity since SDA allocations are not a direct reflection of the size of the eligible population.

The purpose of this section is to report on alternative distribution processes and determine if any are more capable of promoting equity than the current two-tier process. The alternatives we chose to explore were the following:

Modified Two-Tier Allocation: This approach is identical to the current distribution process but eliminates the state level hold harmless provision. The two-tier process and governor's repooling step is still intact.

Direct One-Tier Allocation: This approach bypasses the state level and allocates funds directly from the federal to the local level. Under this approach the allotment and allocation process would be conducted separately, with 22 percent of the national pool set aside for states and the remaining distributed directly to SDAs. State and SDA factor shares are based on relative shares of the respective national pools .

Variable Weighting Allocation: This approach uses a state pass through but eliminates the repooling step. The end result is a state allotment formula which retains the current weighting scheme but a sub-state allocation formula that varies depending upon the composition of the state funding. In other words, if the ED factor is responsible for 50 percent of the awarded state allotment, this factor would receive a fifty percent weight for purposes of allocating sub-state resources. This stands in contrast to the 33.3 percent weight that each factor automatically receives under the current two-tier system. As the name implies, the sub-state allocation formula would vary its weighting from state to state. It should be noted that this approach retains the current state hold harmless provision.

Several simulations were conducted to determine if these alternatives would improve the equity of the sub-state allocations. The initial exercises first entailed identifying the group of SDAs whose allocations were the least equitable under the current two-tier process. Those we selected were the quintile (20 percent) of SDAs who received the lowest per capita (dollars per JTPA eligibles) funding. Our objective was to determine if these same SDAs would be funded any more equitably under the alternative distribution methods.

Our first exercise was to calculate per capita funding levels under the alternative distribution methods. These findings are presented below.

Per-Capita Funding Under Alternative Distribution Methods

	Lowest Quintile	All SDAs
Current Two-Tier Allocation	$30.41	$55.77
Modified Two-Tier Allocation	$29.27	$55.61
Direct One-Tier Allocation	$31.25	$55.75
Variable Weight Allocation	$32.88	$55.94

As can be seen, both the Direct One-Tier Allocation and the Variable Weight Allocation increase the per capita funding of this quintile of SDAs. Although the magnitude of the change is somewhat limited, it does represent movement in the right direction by beginning to narrow the gap between the low end of the spectrum and the average SDA. It also demonstrates movement toward the $50.16 per capita funding level that would be observed under "perfect equity," that is, 100 percent of the funds being distributed according to share of the ED population. These movements in effect increase the degree of funding equity among SDAs.[5]

The second exercise calculates the percentage share of the national Title IIA pool captured by this same quintile under both the current and alternative distribution methods. The premise behind this exercise is that in order to improve its status as the most inequitably funded SDAs, the quintile must increase its share of the fixed national pool. The results are presented below.

Percent Share of Total PY85 IIA Pool Captured By SDAs In Lowest Quintile

Current Two-Tier Allocation	15.0%
Modified Two-Tier Allocation	14.7%
Direct One-Tier Allocation	15.3%
Variable Weight Allocation	15.8%

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[5] It should be noted that observations associated with the "Modified Two-Tier Allocation" should be reviewed with caution. They primarily reflect the economic conditions that were "held harmless" before the condition was released.

Similar to the findings noted above, both the Direct One-Tier and the Variable Weight allocations appear to generate a slightly increased share of the national total. Under the current two-tier distribution method, the bottom twenty percent of SDAs with respect to per capita funding captured only 15.0 percent of the national pool. This rose to 15.8 percent under the Variable Weight approach. Although this may not appear to be a sizeable increase, it conceivably represents a redistribution of over 11 million dollars given current funding levels. Divided evenly among the lowest quintile, this would result in an addition of nearly $100,000 to each of these SDAs. Very few SDAs are in a position to consider this an insignificant addition to their overall resource pool.

The final exercise with this quintile calculates the percentage one year change in allocation that would be experienced by these SDAs if the system were to switch from the current two-tier distribution method to one of the three alternatives. The results are presented below.

Average Percent Change from Current
Two-Tier Allocation to Select Alternatives

Modified Two-Tier Allocation	-4.3%
Direct One-Tier Allocation	+3.4%
Variable Weight Allocation	+9.9%

As can be seen, the one time impact of moving to an alternative distribution method is quite positive under both the Direct and Variable allocations. Under a fixed budget these increases would obviously come at the expense of others; however, such a redistribution is clearly warranted given the inequitable funding initially received by these SDAs. Although none of these exercises alone provides dramatic evidence, a distinct profile emerges which suggests that the Variable Weight Allocation in particular is able to improve the position of those least equitably funded under the current two-tier allocation.

We also conducted a simulation designed to explore the criticism that the current two-tier distribution process promotes inequities across states. That is, it has been shown that under the current approach SDAs with similar characteristics can receive quite different allocations. As suggested earlier, this discrepancy likely results from the adverse influence of the repooling process. To explore this issue further we identified a group of SDAs that were generally similar with respect to the following characteristics: total population, unemployed population, and JTPA eligible population. Although it was difficult to match characteristics exactly, we did identify 24 SDAs that fell within a prescribed range used to insure basic homogeneity.[6]

Our first step was to calculate per capita funding (dollars per JTPA eligible) for each of the 24 SDAs under the current two-tier distribution method. Since the key point we were exploring was similarity of per capita funding, the most relevant descriptive statistic was felt to be the standard deviation. This quantifies the degree of dispersion within the distribution, with a greater standard deviation reflecting a greater degree of dissimilarity among per capita funding levels.

Our second step was then to compare the standard deviation generated under the two-tier distribution method to the alternative distribution methods we have been examining. A reduced standard deviation under one of the alternative distribution methods would suggest that it was producing a greater degree of funding consistency among like SDAs than the current approach. The results of this exercise are presented below.

	Standard Deviation of Per Capita Funding Distribution
Current Two-Tier Allocation	10.08
Modified Two-Tier Allocation	7.89
Direct One-Tier Allocation	7.32
Variable Weight Allocation	9.97

As can be seen above, all the alternative distribution methods have a smaller standard deviation which suggests an improved degree of similarity of per capita funding among SDAs with generally similar characteristics. Particularly effective are the Modified Two-Tier and Direct One-Tier Allocations. This is to be expected since the Variable Weight Allocation still partially reflects the influence of state factors through the hold harmless provision.

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[6] The following ranges were used to identify the 24 SDAs:

JTPA eligibles35,000-65,000
Population325,000-475,000
Unemployed population13,000-18,000

3.3 Summary of Findings

The analysis of funding equity presented in this chapter raises several important issues. First, the concept of equity is multi-faceted and subject to a variety of interpretations. In light of the JTPA emphasis on serving the economically disadvantaged, we adopted a simple definition of equity that suggests that state and local funding under Title II should directly reflect an area's share of the JTPA eligible population. To pursue this concept of equity would require a one factor formula that would allocate 100 percent based on an area's share of the economically disadvantaged population.

We have demonstrated that the current Title IIA and IIB formula (which give the ED factor only 33.3 percent weight) do not distribute JTPA resources in a fully equitable manner. The most influential factor promoting such inequities appears to be the limited overlap between the eligible population (as embodied in the ED factor) and the unemployed population which is heavily represented by the excess and ASU unemployment factors. Our research has shown that there is a very low correlation between the two groups with quite different geographical distributions and very little consistency with respect to socioeconomic and demographic characteristics.

The absence of geographic overlap, coupled with the weight attached to the two unemployment-based factors insures that JTPA resources will be "pulled" away from areas with the highest concentrations of ED residents. Conversely, Title IIA and IIB resources are attracted to areas with high shares of unemployment. In practice, regions such as the Upper Midwest are "overfunded" in relation to their shares of the ED population while southern regions are "underfunded." Similarly, central cities where the ED are heavily concentrated receive a significantly smaller share of overall resources than this concept of equity would dictate.

A second major source of inequity is the repooling step within the two-tier distribution process currently used to channel funds from the federal level through the governor, on to the SDAs. Specifically, in Program Year 1985 we demonstrated that in 60 percent of the states, funds that were brought in as a result of a state's comparative share of the ED population eventually were directed to the other two factor pools in order to comply with the distribution process. By "shrinking" the size of this pool in order to create three distribution pools of equal size, the process exerts an adverse impact on equity since it reduces the extent to which areas are funded consistently with their share of the eligible population.

Simulations were conducted using several alternative distribution methods to determine if funding equity could be enhanced. Results suggested that either a direct allocation from the Federal level to the SDAs or a variable weight allocation which retains the state pass through but eliminates repooling would serve to enhance local funding equity.

In summary, the findings indicate that to promote equity from the perspective discussed in this chapter, an allocation formula that more heavily emphasizes the JTPA eligible population needs to be considered. This should be accompanied by a distribution method that eliminates the artificial repooling of funds by the governor.

4.0 FUNDING STABILITY UNDER THE TITLE II ALLOCATION FORMULA

There were considerable fluctuations in SDA funding from the first full program year of JTPA (PY84) to the second year (PY85) (see Exhibit 4.1). While national Title IIA funding remained quite steady over this period, over 40 percent of the SDAs experienced at least a 10 percent absolute change in funding and over 11 percent of the SDAs experienced an absolute change in funding that was greater than 25 percent. Moreover, nearly one quarter of the SDAs experienced more than a 10 percent funding loss from PY84 to PY85, accounting for approximately 140 of the nearly 600 service delivery areas. If the current hold harmless provision used at the state level (90 percent of share) were applied at the local level, nearly one third of the SDAs would qualify for supplementation.

Since the same formula was used to distribute Title IIB funds, a similar profile of funding changes was observed. It should be noted, however, that the size of the fluctuations was tempered by supplemental allocations targeted to those SDAs that experienced relatively large declines in PY84 funding. After the supplemental allocations were distributed, nearly 80 percent of the SDAs experienced funding changes of less than 5 percent from the previous year.

Disaggregating the funding changes from PY84 to PY85 indicates wide variation among different parts of the country and different types of SDAs (see Exhibit 4.2). Overall, the average SDA experienced a 12.5 percent absolute change in funding during these two program years. The West South Central region was particularly volatile, with a 24.8 percent change in funding, while three other regions (New England, East South Central and Mountain) all experienced in excess of a 15 percent absolute change. Further exploration indicated that the West South Central SDAs were primarily experiencing major funding increases while New England was dominated by funding losses. (See Exhibit A.1 for a map of regions.)

The SDAs experiencing the most volatile funding swings were those with the smallest resource bases. In such cases, even comparatively small changes in the funding levels result in sizeable percentage shifts from year to year. In PY85, for example, nearly one quarter of all SDAs received a Title IIA allocation of less than one million dollars. These SDAs experienced, on average, an 18 percent change in funding from PY84 to PY85, in comparison to the national average of 12.5 percent. These fund-

Exhibit 4.1

Percent Funding Changes from PY84 to PY85
Title IIA and Title IIB

	Title IIA	Title IIB	
		(Formula)	(Total)
Absolute Percentage Change			
0-5%	32.7%	30.1%	78.4
5-10%	26.1	27.1	8.8
10-15%	18.4	16.9	6.0
15-25%	11.5	13.8	4.0
>25%	11.3	12.1	2.9
	100.0%	100.0%	100.0%
Percentage Change			
< -10%	24.1	24.2	1.5
-10% - 0.1%	27.2	23.1	63.7
0-10%	30.6	33.9	23.5
> 10%	17.9	18.7	11.3
		100.0%	100.0%
Benefit from 90% Share Hold Harmless			
Benefiting	32.9	---	---
Not Benefiting	67.1	---	---
	100.0%	---	---

Sources: NACO Survey of SDA allocations
USDOL and published allocation data.

Exhibit 4.2

Mean Percentage Title IIA and Title IIB Funding Changes From PY84 to PY85 By Region, Type of Area, and Size of SDA

	Absolute Percentage Change			Actual Percentage Change		
	Title IIA	Title IIB		Title IIA	Title IIB	
		Formula	Total		Formula	Total
Region						
New England	15:2%	16.6%	5.1	-10.6	-11.2	-3.4
Middle Atlantic	10.5	13.4	4.6	-5.9	-8.7	-2.1
East North Central	8.1	7.9	4.7	2.9	-1.4	0.0
West North Central	11.1	10.2	5.1	0.3	0.0	-0.5
South Atlantic	13.3	14.7	6.6	-5.7	-6.7	-2.7
East South Central	15.1	21.6	16.2	2.3	6.8	8.4
West South Central	24.8	18.7	9.6	20.3	13.0	4.0
Mountain	15.2	12.5	6.7	.3	0.0	1.7
Pacific	5.8	6.3	5.2	0.0	0.7	0.3
Type of Area						
Urban (cc >200,000)	15.2	9.3	5.3	4.9	-0.7	-2.3
Rural	11.4	12.4	7.9	3.5	3.4	2.9
Mixed	12.6	13.1	5.5	-4.5	-5.0	-1.3
Size of SDA Population						
<200,000	12.7	12.3	6.7	3.7	2.9	2.1
200k - 300k	12.4	12.9	6.2	-1.7	-2.6	-0.6
300k - 400k	11.0	11.4	6.3	-1.9	-2.0	-0.1
400k - 750k	14.9	13.8	6.7	0.2	-2.4	-0.2
>750,000	8.8	9.6	5.4	-4.1	-2.9	-0.2
SDA Title IIA Funding Level						
<1 million	18.3	18.1	6.0	-5.6	-5.7	-0.1
1-2 million	10.6	11.1	5.9	-0.3	-1.3	-0.7
2-2.5 million	9.9	10.8	6.4	-1.9	-2.7	-1.2
2.5-5 million	12.5	11.5	8.8	6.9	5.3	3.6
>5 million	7.4	7.1	5.7	2.3	0.9	-1.0
Mean	12.5	12.5%	6.4%	-0.1	-1.0	0.2

Sources: NACO Survey of SDA allocations
USDOL published allocation data.

ing changes were dominated primarily by net losses in Title IIA funding. A similar pattern is noted in Exhibit 4.2 for Title IIB. This observation is confirmed in Exhibit 4.3, where it is shown that 41.2 percent of the 131 SDAs that experienced a Title IIA funding change in excess of 15 percent had received less than one million dollars in PY85 Title IIA monies. It thus appears that the current size mix of SDAs, which includes a considerable number of smaller entities, could be exacerbating any destabilizing qualities inherent in the current allocation formula.

These changes in the annual funding levels of SDAs imply some level of volatility inherent in the Title IIA and IIB allocation formula. Since state and SDA shares of the economically disadvantaged are currently set at 1980 Census values, only the two unemployment-based measures can directly produce annual variations in funding allocations. The purpose of this chapter is to review these two factors individually and examine the influence of each on funding changes.

First we will examine whether the use of a "threshold-based" measure introduces instability. Second, we will conduct several simulations designed to isolate the influence that each factor independently exerts on an overall funding change. By decomposing overall funding change, our intent is to determine the factor(s) most responsible, and thus identify possible changes in either the design, structure, or weighting of the formula that could serve to minimize funding swings.

Our simulations and data analysis were conducted using actual PY84 and PY85 state allotments and factor data provided by the U.S. Department of Labor. PY84 excess unemployment data was gathered from the Geographic Profiles of Employment and Unemployment.

4.1 The ASU Factor

The Area of Substantial Unemployment (ASU) concept originated with the Emergency Employment Act of 1971 but was most widely used under Title II of CETA for targeting Public Service Employment funds. Since then the concept has remained in use as an allocation formula factor under the amended CETA program of 1978 and again under JTPA Title IIA and IIB. The factor is currently defined as a contiguous area (large enough to sustain a Title IIA program) that has had an average unemployment rate of 6.5 percent for the most recent 12 months.

Exhibit 4.3

Distribution of SDAs Experiencing Particular Instability From PY84 to PY85, Title IIA and Title IIB*

	Title IIA	Title IIB
Total	131 (100.0%)	148 (100.0%)
Region		
New England	8.4%	8.1%
Middle Atlantic	8.9	15.5
East North Central	10.7	10.1
West North Central	10.7	8.8
South Atlantic	14.5	16.9
East South Central	6.9	7.4
West South Central	23.7	21.6
Mountain	11.5	7.4
Pacific	3.8	4.1
	100.0%	100.0%
Type of Area		
Urban (cc >200,000)	8.9%	7.9
Rural	39.0	35.5
Mixed	52.0	56.5
	100.0%	100.0%
Size of SDA Population		
<200,000	32.1	27.0
200k - 300k	30.5	31.8
300k - 400k	13.7	15.5
400k - 750k	18.3	19.6
>750,000	5.3	6.1
	100.0%	100.0%
SDA Title IIA Funding Level		
<1 million	41.2	37.2
1-2 million	31.3	33.1
2-2.5 million	12.2	13.5
2.5-5 million	11.5	12.8
>5 million	3.8	3.4
	100.0%	100.0%

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* Defined as experiencing greater than 15 percent change in funding from PY84 to PY85.

Source: NACO Survey of SDA Allocations

The conceptual appeal of the ASU factor is that it is intended to isolate those geographical areas where there are significant concentrations of unemployment. When implemented under CETA in 1978, the 6.5 percent unemployment cutoff was above the 6.1 percent national average and likely represented areas experiencing comparative hardship. As the national average rate of unemployment rose, however, the 6.5 percent threshold became less capable of capturing areas with concentrations of economic problems. In fact, when JTPA was implemented the national average unemployment rate was 9.6 percent, well in excess of the ASU cutoff. As a result, this conceptually appealing factor has been somewhat diluted as the economy has operated with a secular increase in unemployment. This is particularly true at the state level, where in PY85 all but 11 states qualified as "whole state ASUs."

Regardless of where the cut-off is specified, the ASU definition embodies the concept that an area either qualifies or fails to qualify. If an area successfully meets all aspects of the definition, then all unemployed people living in the ASU are counted toward the share of funds received for this factor. If the area fails to qualify, none of the unemployed individuals are acknowledged for funding purposes. Clearly, this "all or nothing" aspect has the potential to cause annual funding changes, particularly if an area qualifies for ASU status one year and not the next. In such cases, an SDA could theoretically receive a full share on this factor one year and nothing the next, with no middle ground. Such loss of funding is typically referred to as the "cliff effect" which often accompanies threshold-based measures structured in this manner.

It should be stressed that in reality, this extreme scenario is unlikely. In instances of improving employment conditions or shifting population, a much smaller sub-area may now qualify as an ASU. That is, the SDA may not lose all of its ASU funding but it may no longer receive "credit" for those unemployed people who live in the geographic areas that were removed in revising the ASU. Even the removal of small areas from an ASU configuration could, however, exert a sizeable influence on the funding received under the ASU factor.

In light of the concerns raised above, the key question becomes: Are the ASU factor and the possible cliff effects merely potential sources of instability, or have they in fact been significant contributors to observed fluctuations? To address this issue we simulated an exercise at the state level to isolate that portion of the absolute change in funding attributable to changes in the ASU factor.

This was accomplished by simulating PY84 and PY85 state allotments using three factor shares but not the hold harmless provision. Using the simulated allotments the absolute percentage funding share was calculated from PY84 to PY85. It was found that on average each state's allotment varied by 11.54 percent during the one-year period. Using this information as a point of departure, we asked the following question: How much funding change would occur during the same time period if the ASU factor did not fluctuate? Any observed difference would thus reflect the amount of annual fluctuation that could be directly attributed to the ASU factor.

The results of this simulation are presented below.

PY84-PY85 Ending Change Holding the ASU Factor Constant

	Absolute Percentage Change	Standard Deviation
Total simulated change PY84-PY85	11.54	15.14
Simulated change holding ASU share constant PY84-PY85	7.36	11.67
Percentage change between actual and simulated	- 36.2 %	-22.9%

As can be seen, the ASU was responsible for a sizeable portion of the total funding fluctuation observed between PY84 and PY85. By holding this factor constant, the absolute percent change in this simulated Title II allotment was reduced by 36.2 percent from 11.54 to 7.36. In spite of the significant amount of instability generated by the ASU factor, it is likely that in practice administrators have learned to minimize its destabilizing potential. Discussions with practitioners have suggested that states have learned to carefully gerrymander the ASU boundaries to create the most beneficial configurations. Even though this may reduce some of the potential for instability, it also increases the likelihood that the ASU may no longer reflect a highly targeted concentration of economic hardship.

4.2 The Excess Unemployment Factor

The traditional rationale for using an excess unemployment factor is that it effectively identifies a structural component of total unemployment. It is argued that the use of an excess factor in place of total unemployment can more accurately target locations that are experiencing a joblessness problem above and beyond that "frictional level" which lies below the 4.5 percent threshold. Unlike cyclical unemployment, this structural component is felt to be persistent "in good as well as bad times, with modifications in the patterns or ranking of local rates occurring only gradually over time" (National Commission for Manpower Policy, 1978).

However, since the unemployment rate ranged from 9.2 percent in 1982 to 8.1 percent in 1984, the 4.5 percent threshold may no longer be appropriate. When the excess unemployment factor was first introduced into CETA in 1978, the civilian unemployment rate was 6.1 percent. Using a constant ratio between total and excess unemployment suggests that an appropriate excess threshold in 1984 is nearly 6.0 percent. Thus the rationale exists to consider raising the excess threshold to better account for current overall unemployment conditions.

Given our concern for stability, we examined the implications of raising the excess threshold on local allocation over time. Consistent with the specification of the Title IIA and IIB formula, we reviewed the stability of excess unemployment by tracking the change in relative shares from 1980 to 1984. These shares of excess unemployment were calculated at the current 4.5 percent definition and again at 6.5 percent.

Data were gathered and examined for the ten largest states and shares of excess unemployment calculated for all four years. Annual changes in relative shares were then estimated using the two definitions (Exhibit 4.4). As can be seen, for example, using a 4.5 percent excess unemployment threshold, Illinois experienced a share loss of 14.5 percent from 1980 to 1981. Using a 6.5 percent cutoff, the share loss during the same time frame was 42.3 percent. In the case of Illinois, the higher excess unemployment cutoff would have resulted in a considerably greater funding swing from 1980 to 1981 than had current definition been retained. This pattern was repeated in 22 of the 30 observation points examined. In many cases the change in share under the elevated excess unemployment cutoff was considerably higher.

Exhibit 4.4

Percentage Change in Share of Excess Unemployment Shares In the Ten Largest States, 1979-1983

State		80-81	81-82	82-83
California	Excess 4.5	7.4	14.9	-3.4
	Excess 6.5	180.9	-9.8	-5.0
	Total Unemployment	2.9%	7.6%	-1.7%
New York	Excess 4.5	-16.9	-23.0	0
	Excess 6.5	-42.7	-37.3	2.1
	Total Unemployment	-8.6%	-13.5%	0.0%
Texas	Excess 4.5	-11.1	87.5	56.7
	Excess 6.5	0	0	312.5
	Total Unemployment	0.0%	4.4%	21.2%
Pennsylvania	Excess 4.5	-1.6	-1.6	14.5
	Excess 6.5	-20.8	-17.9	23.2
	Total Unemployment	-1.7%	1.8%	8.9%
Illinois	Excess 4.5	-14.5	3.1	1.5
	Excess 6.5	-42.3	-14.4	3.9
	Total Unemployment	-6.5%	3.5%	1.6%
Ohio	Excess 4.5	6.9	-6.5	-4.2
	Excess 6.5	-10.8	-34.1	0
	Total Unemployment	3.5%	0.0%	-1.6%
Florida	Excess 4.5	47.6	-3.2	16.7
	Excess 6.5	0	83.3	31.8
	Total Unemployment	19.3%	-2.7%	8.3%
Michigan	Excess 4.5	-22.0	-17.2	-11.0
	Excess 6.5	-49.9	-46.8	-12.8
	Total Unemployment	-13.6%	-1.5%	-8.1%
New Jersey	Excess 4.5	-14.3	-6.7	-25.0
	Excess 6.5	-38.5	4.2	-44.0
	Total Unemployment	-11.4%	-3.2%	-10.0%
North Carolina	Excess 4.5	-19.0	35.3	0
	Excess 6.5	0	0	5.3
	Total Unemployment	-4.1%	8.6%	-4.0%

Source: Geographic Profile of Employment and Unemployment for years 1979-83, U.S. Department of Labor, Bureau of Labor Statistics: 1979-Table 1, 1980-Table 1, 1981-Table 12, 1982-Table 12, 1983-Table 12.

For purposes of comparison we effectually lowered the threshold for excess unemployment down to zero percent and examined the stability of shares of *total* unemployment over the same time period. These data are also presented in Exhibit 4.4. Consistent with the trend noted above, total unemployment shares are considerably *more* stable on a year to year basis than shares of either definition of excess unemployment. This pattern was noted in 26 of the 30 observation periods for which data were examined.

The volatility of the excess unemployment factor and comparative stability of the total unemployment was also demonstrated with actual PY84 and PY85 data. Similar to the exercise we conducted above with the ASU factor, we first calculated the absolute percentage funding change experienced by states between PY84 and PY85. This was found to be 11.54 percent. We then calculated the allotment change, *holding the states' shares of excess unemployment steady* from one program year to the next. Any difference in the originally observed fluctuation could thus be directly attributed to the excess unemployment factor. The results of this exercise are presented below.

PY84-PY85 Funding Change Holding the Excess Unemployment Factor Constant

	Absolute Percentage Change	Standard Deviation
Total simulated change PY84-PY85	11.54	15.14
Simulated change holding excess unemployment factor constant PY84-PY85	5.94	7.63
Percentage change from actual to simulated	-48.54%	-49.6%

As can be seen above, the excess unemployment factor appears to be a significant contributor to overall allotment fluctuations experienced by states. Simply by holding this factor constant we observe that the absolute percentage funding change was reduced by 48.5 percent, from 11.54 to 5.94. It should be noted that this is more influential than the ASU factor that was shown above to reduce absolute funding changes by 36 percent.

Taking this exercise one step further we replaced the excess unemployment and ASU unemployment factors with a total unemployment factor. The stability of this configuration was examined over the same PY84 to PY85 time period. The results are presented below.

PY84-PY85 Funding Change Substituting Total Unemployment for the ASU and Excess Factors

	Absolute Percentage Change	Standard Deviation
Total simulated change PY84-PY85	11.54	15.14
Simulated change using total unemployment to replace the Excess and ASU factors	2.56	2.41
Percentage change from actual to simulated	-77.8	-85.9%

It can be seen quite dramatically that the use of a total unemployment factor has quite a stabilizing influence on the fluctuation of Title IIA allotments. By replacing the two threshold-based measures (excess and ASU unemployment) with a broader based measure (total unemployment), the one year funding fluctuation is reduced by 77.8 percent.

It thus appears that shares of an increasingly diminished base (i.e., unemployed above 6.5 percent) are considerably more volatile than shares of a broader based measure (i.e., total unemployed). The excess unemployment factor may still be capturing a comparatively stable component of the unemployed population. However, in spite of its conceptual appeal, the factor appears to contribute to swings in funding because it constrains the base from which state and local shares can be calculated. Such findings suggest that stability of the current formula can be enhanced by using factors based on the total unemployment rather than shares of a more constrained excess unemployment measure.

4.3 Externally Imposed Options for Reducing Funding Instability

The discussions in the previous section have addressed the stability issue by examining the existing structure and specifications of the formula. It should also be noted that enhanced stability can be achieved through externally imposed means without altering the basic structure of the formula. The first option involves extending the reference periods over which formula factor shares are calculated.

Currently, shares of excess and ASU unemployment are calculated using LAUS data from the most recent twelve month period "as determined by the Secretary." Since local unemployment estimates (particularly in small SDAs) tend to be quite volatile, it can reasonably be argued that an extended reference period such as 24 months would successfully "smooth out" many of the fluctuations that occur over a shorter time frame. This would result in smaller swings in factor shares and thus greater stability in local allocations.

The use of an extended reference period can take the form of either a straight average or a weighted average in which the most recent year(s) are given the greatest weight. With respect to the latter, the factor shares would partially reflect current labor market developments yet still have the extended base to minimize fluctuations.

To assess this approach, these two options were simulated in ten select sub-state areas over a four year period. For illustrative purposes, a two factor formula was used in which ED and total unemployment both were weighted 50 percent. The unemployment shares were first calculated using a 12 month average and then alternatively with a two year straight average and a two year weighted average. The latter weighted the most recent year at 75 percent and the previous year at 25 percent. The data are presented in Exhibit 4.5.

Although the results were not overwhelmingly conclusive, the simulations did reveal that the extended reference period resulted in smaller annual change in 18 of the 30 observation points (60 percent of the observations). In this limited simulation, no clear distinction between the two year straight average and the two year weighted average was discernable.

In response to several requests, the Department of Labor has ruled that states are not required to use the same base period for sub-state allocations as were used for allotments. This in effect cleared the way for governors to use the extended reference period. In spite of the fact that the legislation specifies that a 12-month period be used, several governors have even considered the use of five year averages to further reduce fluctuations in local shares that could destabilize SDA allocations.

Exhibit 4.5

Simulated Percentage Change in Annual Funding Using Unemployment Data with Extended Reference Period*

State/City	80-81			81-82			82-83		
	A	B	C	A	B	C	A	B	C
California									
San Diego	-3.1%	-2.8%	-1.5%	13.1%	1.7%	3.3%	-7.5%	0.5%	-2.1%
Sacramento	6.1	0.3	1.4	-1.2	2.5	2.2	-11.1	-2.8	-3.4
Texas									
San Antonio	-25.0	-4.6	-5.3	-8.2	-3.3	-2.7	-3.7	4.3	7.3
El Paso	-3.0	-1.2	-0.2	-29.1	-2.3	-1.1	7.8	8.6	10.7
Michigan									
Detroit	-15.0	4.9	-4.2	-12.7	-8.3	-6.7	-8.3	-6.1	-7.0
Lansing	-13.9	2.6	-4.5	-14.2	-8.7	-7.7	-13.4	-8.1	-9.3
Florida									
Jacksonville	-0.03	-2.5	2.3	0.6	2.5	1.1	21.6	5.2	8.9
Ft. Lauderdale	67.5	-6.0	-1.4	-13.5	5.1	3.3	11.6	6.8	10.8
New Jersey									
Jersey City	-2.8	-10.7	-6.4	-10.4	-4.5	-4.7	-5.8	-5.6	-8.3
Trenton	-10.4	-12.5	-10.5	4.9	-3.0	-4.2	-16.8	-8.9	-7.0

A = One year of unemployment data
B = Two years of unemployment data - straight average
C = Two years of unemployment data - weighted average (.75/.25)

*Simulated formula includes share of ED (50% weight) and share of total unemployment (50% weight). Share of Ed does not fluctuate.

A second external option for producing greater funding stability at the sub-state level is to impose a hold harmless provision. As was mentioned earlier, such a provision exists under JTPA but currently only applies to state level allotments. Whether structured in terms of shares or absolute dollars, the aim of such a feature is to essentially "override" the allocation formula when it produces year to year swings in funding that are considered undesirable. In other words, despite what the allocation formula may dictate, the hold harmless provision prevents a loss of funding either below a certain dollar level or below a certain percentage share. Depending on how rigidly the provision is structured, such an approach can be extremely effective in preventing significant fluctuations in local allocations.

There are several drawbacks to using a sub-state hold harmless provision. First, the use of such an externally imposed mechanism does not address any inherently destabilizing aspects of the existing allocation formula. Rather, it attempts to address its shortcomings through a somewhat artificial resource allocation method.

In addition, the allocation of resources under a hold harmless provision can work in a counterproductive manner. In cases where economic conditions are improving, an SDA in theory should receive a smaller portion of a fixed resource pool since their share of the problem has diminished. Under constraints of a hold harmless provision however, their resource share will likely not decrease as much as it would have if the formula had been allowed to work on its own. On the other side of the coin are the SDAs who are experiencing deteriorating economic conditions and therefore deserve an increasing share of the resource pool. However in order to "hold harmless" those SDAs who would have experienced a significant decline, funds have to be taken from those who should be receiving a larger allocation. In the case of a fixed pool of resources, this creates the situation where SDAs who should have a growing allocation due to worsening economic conditions may be experiencing a decrease in order to maintain the funding level of those SDAs whose conditions may be improving.

Hold harmless provisions, however, are extremely popular with practitioners who are justifiably more concerned with the effectiveness of the approach than with its underpinnings or repercussions. This was quite evident in reviewing the testimony of SDA representatives who spoke at the Congressional oversight hearings on JTPA during the last 18 months. The importance of some form of sub-state hold harmless was a nearly universal theme (U.S. House of Representatives, 1985). Not surprisingly, there was widespread support for the JTPA amendment proposed by Senator Quayle which gives governors the option to implement such a provision.

4.4 Summary of Funding Stability Issue

The discussions in the previous sections have raised several options that could serve to minimize some of the Title II funding fluctuations that have characterized the first few years of JTPA operations. First, is to emphasize more heavily the economically disadvantaged factor relative to the unemployment-based measures in the formula. From a practical perspective this will clearly stabilize annual allocations since the ED estimates are not currently updated and therefore entail no fluctuation.

A second option is to eliminate the ASU measure from the Title IIA and IIB formula. As currently specified, the factor holds considerable potential for producing instability resulting from the loss of ASU status. In order to minimize any possible losses, some states and SDAs have been able to engage in creative mapping exercises to "gerrymander" the most advantageous ASU configuration. Although such efforts tend to reduce the destabilizing potential of the measure, they also dilute its initial intent, to target funds to concentrated pockets of unemployment and economic hardship. As a result, the JTPA system is now using this rather complex factor that is both unstable and not fully capable of meeting the precise targeting goals for which it was originally designed. In light of these two factors, the continued use of the ASU factor should be seriously questioned.

A third option for reducing instability is to eliminate the use of measures which rely on threshold level to qualify for funding. The use of such cutoffs constrains the base against which state or local shares are calculated and appears to generate greater potential for annual fluctuations. This was shown through the destabilizing impacts of raising the excess unemployment definition to 6.5 percent as compared to the current 4.5 percent. One approach to reducing the inherent potential for instability in the formula would be to replace the threshold-based excess unemployment factor with the broader based total unemployment measure.

5.0 ISSUES CONCERNING THE QUALITY OF DATA USED IN THE JTPA ALLOCATION FORMULA

JTPA formula allocations can only be as equitable and as stable as the data will permit. Even if the formula factors are conceptually valid and the weighting is fair, errors in the data can undermine the intent of the formula and produce an undesirable pattern of allocations across areas and over time. The importance of data to the formula-allocated funds received by states and areas has led to such actions as the numerous lawsuits against the Census Bureau over alleged undercounting in the 1980 Census (Barabba et al., 1983).

This chapter presents an assessment of the four data sources currently used in the JTPA allocation process, including:

- The 1980 Census estimates of the economically disadvantaged (used for state and SDA allocations).
- The Lower Living Standard Income Level series (used as the income standard for the estimates of the economically disadvantaged).
- The estimates of state unemployment from the Current Population Survey (CPS).
- The estimates of SDA unemployment from the Local Area Unemployment Statistics (LAUS) program.

The objective of this chapter is to evaluate the suitability of the data as the basis for making JTPA allocations. To clarify the discussion, we begin with a review of the basic ways that data source characteristics can affect the accuracy of allocations. Where potential problems are identified, ways to reduce their impact on JTPA allocations are discussed, with emphasis on improvements to the existing data sources. The suitability of alternative data sources is addressed in Chapter 6 of this report.

The chapter is organized as follows:

- Section 5.1 presents the general issues of concern in assessing data for use in allocation formulas.
- Section 5.2 examines the key characteristics of the 1980 Census counts of the economically disadvantaged. Particular attention will be paid to the currency of these estimates and discrepancies with the JTPA eligibility requirement.

- Section 5.3 discusses the Lower Living Standard Income Level data series.
- Section 5.4 examines the key characteristics of the CPS affecting the state-level employment and unemployment data.
- Section 5.5 presents the issues concerning the use of the LAUS data on SDA-level employment and unemployment figures.
- Section 5.6 addresses the process of estimating counts of unemployed in areas of substantial unemployment at the state and SDA levels.
- Section 5.7 summarizes the key conclusions and options presented in the chapter.

5.1 General Issues in Assessing Data Used in Allocation Formula

The data available for use in an allocation formula may differ from the actual conditions in the population being measured because of random error or bias. Random error is the variation of an estimate based on sample data (e.g., the unemployment rate for a given state) around the true value that would be obtained from a complete count of the population. In the long run, purely random error in an estimate will average out, the positive errors offsetting the negative errors. Bias, however, is a consistently positive or negative difference between the estimate and the population value because of an unrepresentative sample or some other measurement problem.

Random error in data can cause instability in formula allocations. For example, the estimate of unemployment for a state may change from year to year more than the actual level of unemployment because the estimate is low one year and high the next. The current unemployment estimates for small states are subject to a one-third chance of an error of 8 percent or more (approximately one-half of a percentage point if the unemployment rate is around 7 percent)[1] (Creighton and Wilkinson, 1984). This level of error translates into $213,000 gained or lost at the minimum JTPA state Title IIA allotment of $4 million. At the average state Title IIA allotment of $29 million, the same amount of error would mean $1.5 million gained or lost. (These estimates assume that the combined error in the two unemployment factors in the formula is proportional to the error in the unemployment estimate.) This kind of fluctuation in funding can make planning and program management more difficult.

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[1] It should be stressed that level of sampling error applies only to small states. The 11 largest states which contain 57 percent of the unemployed are subject to considerably less sampling error.

Persistent bias in the data used in JTPA allocations can cause inequities in funding. If, for example, a factor in a particular area or type of area is consistently underestimated, that area will receive less funds than it is entitled to receive by the terms of the formula. Unlike random error, bias can cause the same distortions in allocations year after year.

The equitability of JTPA allocations depends not only on the accuracy of the data but also on the extent to which the definitions of the measures used are consistent with the intent of the legislation. For example, the estimates of the economically disadvantaged population do not fully conform to the definition in the legislation (P.L. 97-300, Section 202(a)(3)(B)) because the Census did not separately report two categories of income: unemployment compensation and child support. Thus, areas in which low-income persons receive a greater proportion of their incomes from these sources may have greater shares of the ED as defined conceptually by the legislation than as defined for the purpose of the actual counts used for allocation.

Another data concern is comparability across areas. If the data sources or estimation methods vary across areas (states or SDA's) that compete for funds, the result could be bias or differences in variance. In either case, some areas would be more sure of receiving the funds to which they are entitled than others.

The timeliness of data is another characteristic that affects the equity of the allocations. First, if new data are not available for each year's allocation, the allocations may not be as responsive to shifts in need as is desired. On the other hand, continual updating of data subject to error can create instability that does not reflect real changes in the distribution of need.

The goals of maximizing the equity of JTPA allocations and minimizing the instability caused by random error have to be balanced against constraints imposed by the complex legal and political environment in which the JTPA system functions. The cost of data collection, both to the government and to the respondents, imposes limits on the degree of accuracy that is feasible. The problem of conflicts of interest—entities being responsible for the collection of data that affect their share of funds—also limits the options for data collection. Finally, data sources must be legally defensible, in that the choices embodied in them are not arbitrary, capricious, or unduly subjective. This consideration is especially critical when considering complex estimation procedures on which there is not a solid professional consensus (Barabba et al., 1983).

5.2 Use of the Decennial Census in JTPA Allocation Formula

The decennial Census of the US population is a vital source of data for the JTPA allocation formula. It provides the most accurate estimate of the number of economically disadvantaged persons, based on the long-form questionnaire completed by 17 million households in 1980 (Bureau of the Census, 1982). The Census also provides key data used in the sampling for the Current Population Survey (CPS) and deriving estimates of the labor force data from the CPS and LAUS programs. This section focuses on those issues concerning the use of the ED counts from the Census.

Timeliness of Census

The chief limitation of using Census data for JTPA allocations is that it quickly becomes outdated. At best, there is a lag of two to three years between the period for which income is measured (the year before the Census year) and the time that estimates become available. At worst, the same estimates are still the most current ten years later. Thus, 1980 Census estimates of the economically disadvantaged may still be in use for the 1992 JTPA program year.

The result of the lags in the Census data is that allocations may lag behind shifts in the geographic distribution of the disadvantaged population. These shifts can be substantial over the ten years between Censuses or even shorter periods. The switch from one Census to the next as the basis for allocation has the potential to cause considerable change, because the adjustment for ten years of changes is made in a single year. The hold-harmless and minimum allocation features of the JTPA formula protect the states from the full impact of such a change, but there is only indirect protection for the SDAs.

One way to assess the impact of lags in Census data is to compare the distributions of the adult poor (a proxy for the economically disadvantaged) over time and determine the impact of any changes on allocations (see Exhibit A.7 in the Appendix). Using data for 1969 and 1979, we found a substantial shift in the distribution of the poor, especially from the Southern and North Central Census regions to the Western region. Nearly all of the states with an allotment increase of 10 percent or more, based on the share of the adult poor, are in the Western region. Conversely, the majority of Southern states had declines of 10 percent or more in their shares of the adult poor from 1969 to 1979. Six of the other 7 states with share declines of 10 percent or more were in the North Central region. These shifts probably reflect both migration patterns and changes in relative standards of living.

The effect of the shift in the distribution of the poor between Censuses on a hypothetical factor pool of $500 million is large. Nineteen states experience a change of over $1 million with the shift from the 1970 Census to the 1980 Census as the basis for the allocation. The states with the largest dollar changes are not always the largest: both Louisiana and Mississippi lose over $2 million each. It is important to note that the total error in allotments caused by outdated Census data would probably be greater than these estimates, because of the accumulation of the error over time.

Changes in the distribution of the poor that make the most recent Census data obsolete can also occur over shorter time periods than a decade (see Exhibit A.8). We observed this by comparing the distribution of the poor as estimated in the 1980 Census with similar figures from the 1985 Current Population Survey.[2]

The changes in shares of the adult poor from 1979 to 1984 were apparently almost as great as the changes in shares from 1969 to 1979. The change in share over 5 years exceeded 20 percent in 11 states. Of the 9 states with 5-year gains of 10 percent or more, 4 are in the North Central region and 3 are in the West, reflecting less clear patterns of change among the regions than occurred between 1969 and 1979. Furthermore, 21 states had greater absolute changes from 1979 to 1984 than from 1969 to 1979.

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[2] The results in Exhibit A.8 should be interpreted with care, since the CPS poverty estimates for the states are not considered accurate enough for publication. The coefficient of variation (standard error/estimated value) for the 1985 poverty rates ranges from 5 percent to 21 percent. (For further discussion of the accuracy of CPS poverty estimates, see Section 5.2.

The preceding evidence indicates that indeed, the decennial Census can become quickly outdated and unreflective of changing shares of the eligible population. In addition, it appears that the states and SDAs may well experience noticeable changes in their allocations when a new Census becomes available. The main obstacle to remedying this problem is that no other single data source that is available more frequently provides as accurate and unbiased data as the Census. The sample for the March CPS, the next largest household survey providing income data, is less than 0.4 percent of the size of the sample for the Census income data. Administrative data sources, such as IRS files, offer larger samples but lack complete coverage of the population and household composition information.

There are, however, some potential means for updating the Census counts of the economically disadvantaged. These include:

- Expansion of the CPS to provide reliable annual estimates of the economically disadvantaged;
- A limited-purpose mid-decade Census or expansion of the CPS;
- Estimation using a single CPS alone or in conjunction with the last Census; or
- Pooling of CPS data from two or more years to obtain an adequate sample.

These options are discussed in Section 6.2.3.

Consistency Between Census Data and JTPA Eligibility Requirements

JTPA establishes a specific definition of ED status for the Title IIA and IIB allocation formula that is not used in other statistical programs. This definition is:

> The term "economically disadvantaged" means an individual who has, or is a member of a family which has, received a total family income (exclusive of unemployment compensation, child support payments, and welfare payments) which, in relation to family size, was not in excess of the higher of (i) the poverty level determined in accordance with criteria established by the Director of the Office of Management and Budget, or (ii) 70 percent of the lower living standard income level. (P.L. 97-300, Section 202(a)(3)(B)).

The Department of Labor had to request special estimates of the ED population by the Census Bureau, since the Census data series use the OMB poverty standard. As a result, the ED data were made available for use by the Department of Labor and the states, but they do not appear in the Census data tapes and publications available to the general public.

The Census Bureau was unable to estimate the ED status of individuals exactly as defined by JTPA because two key variables were unavailable. JTPA requires that public assistance income, unemployment compensation, and child support be deducted from the income applied against the income standard in determining ED status for allocation purposes. While public assistance income was available in the Census, unemployment compensation and child support were not separable from other categories of income, because of the way the questionnaire was structured. The Department of Labor gave notice to the Congress that these latter types of income could not be deducted, and that no acceptable adjustment method was available. As a result, the distribution of the ED population, as estimated by the Census Bureau, and the allocations determined by that distribution do not fully reflect the intent of Congress.

To assess the potential impact of this inconsistency we used the 1985 March Work Experience Supplement to the CPS to estimate two counts of the economically disadvantaged population, based on two separate definitions. The first count mirrors the definition currently used by the Census to provide data for allocation purposes. The second, more accurate definition deducts child support and UI income from their total family income in estimating the size of the disadvantaged population. This latter definition more directly reflects the distribution of the eligible population as specified by JTPA, and allows us to examine differences between the two groups.

Although our findings revealed that the size of the disadvantaged population increases by approximately 6 million adults, the inter-state the distribution does not differ dramatically from the distribution of the ED population as currently defined. (See Exhibit A.9.) Specifically, no state's share of the total population changes by more than three-tenths of a percent. However, when translated into an allocation using current levels of funding, the differences can amount to significant sums of money. For instance, by using the expanded definition of ED, California faces a loss of nearly $1 million, while Texas could gain nearly $1.8 million. Regionally, a more precise definition would tend to hurt the New England and East North Central regions and favor the Mountain region. The remaining regions appear to balance gains and losses. In light of these findings, it will be important to review alternative data sources from the perspective of improving the consistency of income estimates with the parameters of the eligibility guidelines.

An additional problem with the Census ED count is that it does not reflect the actual distribution of those eligible for JTPA because there are several sub-groups that are categorically eligible regardless of income. These groups include members of AFDC or food stamp households as well as more minor categories. If members of these categorical group have family incomes above the standard in the definition for allocation purposes, they are not counted in the ED estimates used to allocate funds. To the extent that the distribution of program eligibles differs from the estimates for allocation, some areas will have more funds per eligible than others.

It would not be possible to compute ED estimates that included all eligibles from the Census because some of the key data are not available. The Census does not separate AFDC from other public assistance income, and does not report non-cash benefits such as food stamps. It would be desirable to provide separate data on these benefits in the next Census so that more precise estimates of JTPA eligibles can be made.

Bias in the Census ED Count

Estimates of the ED population based on the 1980 Census may be biased against some states or types of areas because of undercounting. Many states and cities, especially those with large minority populations, have often expressed concern that the Census had failed to count significant numbers of persons in their jurisdictions. Quite a few took legal action to get the Census Bureau to adjust their counts (Barabba et al., 1983). The courts were divided on whether the Bureau should be required to adjust the counts, and no adjustment was made to the counts used for JTPA allocation.

The extent of the impact of the Census undercount on JTPA allocations is not clear because of the range of the national undercount estimates and the lack of data on state and sub-state estimates. Preliminary estimates from the Census Bureau, based on demographic analysis, suggested an overcount of the population as a whole (Passel et al., 1982). More recent studies incorporating data from the Post-Enumeration Program indicate a range from 0.8 percent to 2.0 percent undercount overall (Cowan and Fay, 1984).

The Census undercount appears to have disproportionately affected estimates of the black and Hispanic populations. Estimates range from 2.7 percent to 6.7 percent for the national undercount for blacks, and from 3.6 to 7.6 percent for Hispanics (Cowan and Fay, 1984). Research on the undercount also suggests that undercount rates are higher among inner-city minorities and among such groups as minority single female parents. (Ericksen and Kadane, 1983; Boone and Whitford, 1984). A study attempting to apply a national undercount estimate to state and local population estimates found that the results varied considerably from one procedure to another and within states, but most of the estimates pointed to undercounts in the South and West (Differendal, et al., 1983).

The Census Bureau and many independent statisticians oppose adjustments to the Census counts because of the lack of defensible adjustment methods. No consensus exists on the best method or on the criteria for determining whether any adjustment produces estimates superior to the Census counts (Barabba et al., 1983; ASA Technical Panel, 1984). Furthermore, little if anything is known about the level and patterns of error in adjusted counts.

Finally, there is the fundamental problem of determining how to assign characteristics, such as ED status, to persons whose existence is imputed by an adjustment for the undercount in the population estimates. The evidence suggests that the uncounted may differ significantly from those who are counted (Ericksen and Kadane, 1983), but the lack of data on the former group makes any imputation procedure speculative.

The literature on the Census undercount cited above implies that some geographic areas probably have lost funds under JTPA and other programs because of the undercount, but that the existing data and techniques are insufficient to provide a more accurate count for allocation purposes. Thus, attention turns to ways to increase the data on the undercount. Here, the prospect for improvement must be tempered with the awareness that the 1980 Census devoted substantial resources to maximize the count and to analyze the undercount (Gonzalez, 1984). Some of the procedures cost as much as $72 per person added to the count.

While the Census Bureau has not made direct adjustments to population counts, it has recognized the undercount problem in the procedures used for estimating population data from the Current Population Survey. As Section 5.4 explains, estimates of the undercount are used to adjust the age/sex/race composition of the population for CPS estimates. In addition, CPS estimates include an allowance for illegal immigrants after April 1, 1980.

In interviews conducted for this report, some sources noted that the Census estimates of the ED include some groups that might be excluded on the grounds that their low incomes status is artificial. This argument focuses on college students and military personnel, groups whose cash income is not a valid indicator of their standard of living because of the other resources to which they have access. The estimates of the ED exclude some students and military personnel because they include only members of the non-institutional population, but students in non-dormitory housing and off-base military personnel are included. The argument advanced is that the SDAs where students or military personnel are concentrated have ED estimates that are not commensurate with the true level of demand for JTPA services. This issue is especially pertinent to the debate over whether to use the ED youth population as the allocation factor for Title IIB, since it is in the age 16 to 21 group that students and military are concentrated. The problem could be resolved in future ED estimates by excluding all full-time college and graduate students and/or active duty military personnel. It is likely that only a few SDAs would be noticeably affected by this change.

5.3 Effects of the Elimination of the BLS LLSIL Survey on the Estimates of ED for the JTPA Formula

Determination of ED status for JTPA allocation estimates relies on the Lower Living Standard Income Level (LLSIL). Since 1982, however, the Bureau of Labor Statistics (BLS) has not published LLSIL data; the only updated standards have been for the JTPA eligibility regulations. These LLSIL updates, however, are not necessarily valid, according to the Employment and Training Administration, because of the age and limitations of the original estimates (Employment and Training Reporter, 1986).

The LLSIL was one of three income standards published annually under the Family Budget Program by the BLS. The other two series were the Intermediate Living Standard and the Higher Living Standard. Budgets at these levels were published for a single-earner, married-couple family of four and for a retired couple.

The original budgets reflected the distribution of spending observed in the 1960-61 Consumer Expenditure Survey. The core of the budgets was a detailed list of goods and services considered to be representative of the standard of living. The estimates for subsequent years were based on data from the Consumer Price Index program, indicating changes in the costs of the items that made up the budgets. BLS published the budgets for all metropolitan and non-metropolitan areas in the four major regions of the U.S. as well as for 25 to 40 SMSAs, using indexes of relative prices across the reporting areas.

In 1980, the Expert Committee on Family Budget Revisions recommended substantial changes to the series, including a shift to median total expenditures instead of item lists as the basis for the new Prevailing Family Standard. The committee criticized a number of features in the existing program, including the outdated survey that determined the lists and the overreliance on the standard family construct in an increasingly diverse society (Watts, 1980).

Some experts, however, found the committee's proposal to be overly arbitrary in its reliance on fixed relations between the Prevailing Family Standard and other income levels. In an inflationary period, some were concerned that reliance on total expenditures would mask a real decline in the overall standard of living as prices rose (Draper, 1980). While the debate on how to revise the budgets continued, the focus of the larger agenda at the Department of Labor became the reduction of costs. In view of the substantial cost of revising the series and the uncertainty over how to proceed, BLS decided to cease publishing the series.

The LLSIL was updated in 1984 and 1985 by the Employment and Training Administration to provide the most accurate possible eligibility standard for JTPA. This update was essentially a continuation of the old Family Budget Program methodology, using CPI data to inflate the 1981 standards to current price levels. The CPI data are not entirely comparable to the LLSIL series, however, because of items such as taxes which were included in the LLSIL but are not reflected in the CPI (Employment and Training Reporter, 1986). Since the LLSIL was only estimated for a non-elderly family of four, ETA used the existing set of ratios to calculate the LLSIL for other family sizes.

Given the age of the basic data underlying the LLSIL and the limitations of the data, the question arises as to whether the use of the OMB poverty index, or some multiple of it, would be more valid for future estimates of the ED population. Unlike the OMB poverty standard, the LLSIL allows for some regional variation in cost of minimum standard of living. In addition, the LLSIL reflects all types of goods and services; the poverty index is based on the cost of the USDA Thrifty Food Plan inflated to a total cost of living by a factor of three.

The data underlying the poverty standard are also not any more current than those for the LLSIL: the Thrifty Food Plan was set in 1961, and the ratio of food cost to total expenditures was estimated in the 1955 Survey of Food Consumption (Census Bureau, 1983). However, the poverty index program does include a methodology for estimating levels by family size, with some allowance for differences in family composition.

The greatest advantage of the poverty index is its simplicity. Unlike the LLSIL, it is not subject to the criticism that its regional variations are based on limited data and do not allow for regional differences in the actual array of needs in addition to the differences in the prices of individual items. It can be argued that, given the outdatedness of the lists making up the LLSIL budget, the regional variation in the LLSIL not a valid indicator of the actual variation of the cost of a near-subsistence standard of living. Furthermore, the poverty index is the most widely recognized index of income inadequacy, and detailed poverty data are published regularly.

While the LLSIL could be made more valid though analysis of data from the Consumer Expenditure Surveys conducted in the 1970s and 1980s, or through a new survey, any significant improvement would bring with it the likelihood of discontinuity. The problem that has been faced in previous efforts to revise the LLSIL persists: the reasonableness of a new standard is judged by its relationship to the existing standard. Any revision that radically changed the income standard for some area or income levels would come under substantial (and inevitable) methodological criticism.

An additional problem is that the setting of an income standard involves political issues as well as technical ones. The cost of maintaining an adequate standard of living depends on who is defining "adequacy" and what mix of goods and services is used to reach that level. As the Expert Committee on Family Budget Revisions pointed out, nutritionists can define the requirements for a minimally adequate diet, but there are many ways at different costs to meet those nutritional requirements (Watts, 1980). Furthermore, the choice of an income standard carries with it both legal and moral obligations to help those who fall below it.

On balance, it appears that the LLSIL approach is more appropriate for the JTPA formula than the poverty standard. The ability to allow for regional variation and to adjust the standard annually for regional or national changes in all major categories of purchases makes the LLSIL a fairer basis for determining ED status than the poverty standard. The chief problems with the LLSIL—outdated commodity lists and the risk of discontinuity with a major revision—can be mitigated by the BLS. Also, it should be noted that the areas that currently receive a disproportionately low share of JTPA funds (relative to the eligible population) are also the areas with lower costs of living and thus those areas most likely to gain from a shift to a uniform poverty standard.

5.4 Use of the Current Population Survey for JTPA Allocation

The Current Population Survey (CPS) is at least as important as the Census in determining JTPA allocations. The two unemployment-based factors in the Title IIA/IIB formula draw on annual average unemployment estimates from the CPS for determination of state shares. The sub-state unemployment data for JTPA allocation are adjusted to conform to the CPS estimates in the aggregate, as discussed in Section 5.5. Thus, any sources of error in the CPS data and the controls that limit error are of considerable significance to the JTPA allocation process.

The strengths of the CPS for JTPA formula purposes include:

- It is a household survey, avoiding the selective nature of administrative data and providing better indications of economic status than data sources that deal only with individuals (e.g., Social Security tax data).

- The interviewers are trained and monitored over time to minimize error.
- The sample is stable over time, reducing artificial fluctuations.
- The data are reported within a month of when they are collected.
- Well-established routines ensure data quality and consistency.
- The sampling procedure minimizes absolute errors by sampling areas in proportion to their population.

The key limitation of the CPS is its size. The current CPS sample of about 60,000 households (of which 57,500 are actually interviewed in the average month) only provides reliable monthly unemployment estimates for the nation, 11 states, 1 Primary Metropolitan Statistical Area (PMSA), and 1 central city. A redesign of the sample implemented in 1985 increased the reliability of annual unemployment estimates for all states, reducing the maximum coefficient of variation to 8 percent from the previous limit of 10 percent (Creighton and Wilkinson, 1984). This improvement means that the portion of the JTPA Title IIA and IIB allotments based on unemployment should be more stable and equitable, especially for smaller states. However, sub-state estimates from the CPS are not sufficiently reliable, so allocations must be made on the basis of data from the Local Area Unemployment Statistics (LAUS) program, discussed in Section 5.5.

There are some potential sources of variance in CPS estimates that may distort JTPA allotments to the states. First, the primary sampling units (PSUs) and the areas within PSUs are selected when the CPS sampling frame is updated--about once a decade, several years after the Census. The CPS household sample is then drawn from those same PSUs until the next revision. (It should be noted, however, that enumeration districts within PSUs do change over the course of the decade.) Thus, as geographic patterns of employment and unemployment changed, the particular areas chosen could become less and less representative of the larger areas for which they provide the data, causing increased variance in estimates of the JTPA formula factors.

The potential for distortions in JTPA allotments, however, is reduced by the use of independent estimates of the population to inflate the sample data from the CPS. However, this procedure also has the potential to introduce other biases in the final CPS estimates. The Census Bureau prepares estimates of the population ages 16 and up for each state and two sets of national estimates: one by age groups within the categories of Hispanic and non-Hispanic, and one by 70 age/sex/race groups. These estimates begin with the 1980 Census data and apply more recent data on births, deaths, immigration and emigration.

Thus, the population estimates that underlie the CPS data are subject to bias from the Census undercount and other errors. As noted in Section 5.2, the Census undercount is uneven across demographic groups and thus may bias allotments. In January 1985, the Census Bureau introduced a control for distortions in the age/sex/race structure of the population caused by the Census undercount. The 1980 population estimates are inflated to compensate for the estimated undercount before they are updated through the application of birth, death, immigration/emigration estimates and aging. The estimates are then deflated by the inverses of the undercount factors to approximate the estimates from a current Census. Thus, to the extent there is a Census undercount, the CPS procedure only partially compensates for it. In addition, the immigration estimates have been found to be inadequate in view of the rising (but still poorly measured) levels of illegal immigration. However, the Census Bureau added an allowance for illegal immigration to the population estimation procedure in January 1986 (Bureau of Labor Statistics, 1986a).

There are also systematic differences in some variables, such as unemployment, between the group that enters the CPS sample each month and the groups that have already been interviewed in the previous months. (The CPS sample has a rotating design in which a household is interviewed for four consecutive months, then dropped from the sample for eight months, then returns for four more months.) While this problem, known as rotation bias, does not seem to differ systematically across areas, it does appear to bias the overall estimate of unemployment, although the direction has never been conclusively determined.

There is also a recognized variance in the CPS, relative to the response level achieved by the Census (Bureau of Labor Statistics, 1986) due to missed housing units and missed persons. The adjustment for noninterviews corrects for differences between those interviewed and the whole population; however, it does not compensate for differences in labor force status patterns between those who are not counted in the CPS and those who are. It is possible that those not interviewed by the CPS, like those missed by the Census, are worse off on average than those who are easier to find. Thus, CPS unemployment estimates for areas with high undercounts may be biased downward.

The strengths of the CPS estimates of state unemployment far outweigh their weaknesses. The CPS' timeliness, breadth of coverage, and quality control procedures make it superior to the alternatives (the Census or the LAUS program). BLS and the Census bureau have made major improvements in recent years to reduce both the random error and the bias of the estimates; the most important of these changes was the revision of the sampling plan to incorporate 1980 Census data and restructure the sampling along state lines.

5.5 Use of Local Area Unemployment Statistics for JTPA Allocation

Under Titles IIA and IIB of JTPA, allocations to SDAs depend on unemployment data generated by the LAUS program. This Federal-State cooperative program produces employment and unemployment data for labor market areas (LMAs), counties, and areas within LMAs using administrative sources and a variety of adjustment techniques to compensate for the limitations of the administrative data. The LAUS program also produces monthly state unemployment estimates benchmarked to the CPS, which contribute to the 12-month (July to June) average generated for purposes of calculating state allotments.

Reliance on the LAUS data for funds allocation has been a major source of concern since the expansion of the use of formulas for grant allocation in the early 1970s. (See Goldstein, 1979; NCEUS, 1979.) The criticisms of the LAUS estimates have focused on the limitations of the administrative data sources that are the basis of the estimates and the adjustment methods used.

The most basic limitation of the LAUS program for JTPA allocation purposes is that it relies on data sources that were designed for other purposes and do not cover completely the employed and unemployed populations. The LAUS employment estimates are based on a combination of data from the monthly Current Employment Statistics (CES) survey of employers and quarterly returns from employers included in the Unemployment Insurance (UI) tax program. These sources provide employment data on nonagricultural wage and salary workers. While nearly all workers are covered by UI, major categories of workers excluded are the self-employed, unpaid family workers, and certain classes of agricultural and domestic workers. Furthermore, the employment data represent jobs, not employed persons, so multiple job-holders are double-counted and employees are identified by their place of work, not place of residence. Finally, the CES data are only available for the 242 MSAs (BLS, 1982).

The validity of the LAUS unemployment estimates is also limited by the necessity of relying on UI claims data. Many of the unemployed do not receive UI, and the proportion varies considerably. In 1977, for example, the proportion varied across the states from 17 percent to 54 percent of all unemployed (NCEUS, 1979). The UI claims data do not include anyone who does not file a claim, such voluntary job leavers, uncovered or ineligible workers, and new entrants or reentrants to the labor market.

The method developed by BLS to adjust the CES/UI employment data to be comparable to the CPS reduces the biases in the basic data but adds new sources of potential error. The method relies on Census data for the key adjustments, making them prone to bias as patterns of employment change over the decade between Censuses. Up until 1986, the translation of the estimates of employment by place of work to estimates of employment by residence was still being made with the use of 1970 Census data (BLS, 1986b). The Census data also are used to adjust for double-counting of workers and some classes of workers not covered by the establishment data base (unpaid family workers, self-employed, etc.).

The LAUS unemployment estimation procedure introduces similar sources of error in adjusting for the groups not covered by the UI claims data. The adjustment factors used are based on national data from the CPS. Thus, allowance cannot be always be made for variation among states or types of areas in the conditions that affect whether an unemployed worker receives UI. The worker must have had a covered job and sufficient work experience, must not be ineligible for other reasons, and must apply and be approved. The probability of each of these events depends on such factors as the industry composition of the area, the demographics of the work force, the regulations and operating practices of the state UI agency, and the accessibility of UI offices.

Another problem with the LAUS estimates is that some of the data required are old or non-existent. For example, some of the data used for adjusting the LAUS unemployment estimates originated in the 1950s and 1960s, including the factors for estimating unemployment due to entry or reentry into the labor market, a group estimated at 25-35 percent of all unemployed (Goldstein, 1979).

The omissions and adjustments in the LAUS data are most likely to affect the estimates for rural areas and inner city areas. Workers in these areas are more likely to be uncovered or marginally employed. Movement in and out of the labor force is also more frequent in these areas. Multiple job-holding and self-employment are more prevalent in rural areas than elsewhere, and rural workers are less likely than their urban counterparts to be aware of and use the Employment Service (Tweeten, 1979).[3]

Problems Created by Benchmarking LAUS Estimates to the CPS

The LAUS estimates for LMAs (referred to as "Handbook" estimates) are adjusted to conform to CPS data as a control on the biases in the LAUS data. The annual averages for the LMAs within each state are reduced or increased by the ratio of the state CPS estimate to their sum. (The LMAs in each state are configured to collectively exhaust the state.) Thus, the adjustment makes no allowance for differences in error among LMAs, regardless of the quality of the data or differences between areas in the direction of the LAUS bias. In the extreme, valid monthly employment estimates can be made directly from the CPS for two MSAs (New York and Los Angeles); many other large LMAs may have large enough samples in the CPS for reliable annual estimates.

Some analysts have argued that local area unemployment estimates are particularly biased against rural areas (GAO, 1985). Part of this argument rests on the observation unclear definitions and samples structured around MSAs have left rural areas as a residual in the CPS and other data sources. As a result, rural estimates contain more error.

As noted previously, several classes of workers for whom employment and unemployment must be estimated synthetically are more prominent in the rural labor force, including the self-employed, unpaid family members, multiple job holders and agricultural workers. Some studies have shown that rural residents are less likely than others to use social programs such as UI even if they are eligible. Finally, those who argue for a bias against rural areas point out that rural workers are more likely to leave the labor force because of discouragement or persist in underemployment because the options for employment are more quickly exhausted in depressed rural areas. These conditions of labor market hardship are by definition ignored by the unemployment statistics.

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[3] Multiple job holding adjustments have been made to the covered portion of agricultural wage and salary and private household worker since 1982.

It should be noted, however, that not all of these arguments point toward a persistent downward bias in rural unemployment estimates. Most of the criticism is aimed at the applicability of the unemployment measure per se when underemployment and discouragement are equally large problems. This criticism is equally applicable to the estimates for inner city areas. The argument that rural area estimates are more prone to error does not necessarily prove that that error is likely to be in only one direction. Finally, some of the problems with rural area labor statistics, such as the difficulty counting the self-employed, may overstate unemployment rates.

It is not clear whether the sources of error in the Handbook estimates contribute to the instability of SDA allocations, over and above the actual fluctuations in unemployment. While state LAUS estimates have been shown to be prone to bias by comparisons to CPS data, no reliable benchmark exists for sub-state data except the decennial Census. Furthermore, the synthetic nature of the LAUS makes it difficult to formulate theoretical estimates of error.

To the extent that LAUS estimates for larger areas are more reliable, the benchmarking process increases their error, since it introduces the random and non-random error from the estimates from smaller areas. On the other hand, the reliance on outdated estimates from the Census and the CPS is likely to introduce rigidities in the LAUS estimates, especially in small area estimates.

One solution to the problems of error in SDA unemployment data for allocation is to enlarge the CPS. The availability of a comprehensive household-based survey would eliminate both the errors introduced by the synthetic estimation in the LAUS and the effort necessary to produce those estimates. In addition, states would no longer be put in the bind of having to produce the statistics used to determine their funding. However, as has been shown in previous analyses (Goldstein, 1979), the sample required to provide reliable estimates for all SDAs would be prohibitively costly. However, a more modest expansion of the CPS along the lines recommended by the National Commission on Employment and Unemployment Statistics (NCEUS) in 1979 (to 112,000 households) would provide acceptable estimates for all MSAs of 1 million or more persons (NCEUS, 1979). The reduction of error in the estimates for these areas would disproportionately reduce the total dollar value of misallocations due to error, given their large share of all JTPA funds.

A less costly alternative more in keeping with the current emphasis on state autonomy in JTPA would be to improve the Handbook methods used to estimate the sub-state allocation data. This effort could take advantage of the wealth of CPS and Census data, as well as the state of the art in statistics. The most cost-effective approach to improving the handbook estimates would be to focus on the most significant gaps, especially the estimation of non-insured unemployment.

Finally, a reduction in the relative weight placed on unemployment factors would reduce the influence of the errors in the LAUS data on total SDA allocations. Thus, the analysis of the data underlying the formula points in the same direction as the analysis of the equity and stability of the formula in the preceding chapters.

5.6 Problems in the Procedure for Defining ASUs

One of the most problematic uses of unemployment data in the JTPA allocation process is the estimation of the number of unemployed in areas of substantial unemployment--the ASU factor. The calculation process for the ASU factor heightens the effects of the errors in the CPS and LAUS data and creates inconsistencies in definitions and data across states and areas.

The determination of whether an entire state qualifies as an ASU is a prime case of the "cutoff" problem in allocation formulas. The legislation specifies a single value as the criterion, despite the known range of error in the estimates. At the maximum error level for the state unemployment estimates (8 percent coefficient of variation), the 95 percent confidence interval around an estimated unemployment rate of 6.5 percent is from 5.7 percent to 7.3 percent. In the estimates for the PY85 allocations, 14 states' unemployment rates fell within this range. Thus, it is likely that some of these states were unfairly forced to reduce their ASU counts while others were unfairly credited with their entire state's unemployment.

Those states that do not entirely qualify as ASUs face a tradeoff between the quality of the data used for estimating their ASU unemployment and maximizing their shares under this factor. The Department of Labor recommends that states use "'the largest appropriate defining units'" (Employment and Training Reporter, 1983), but leaves the determination up to the states. If an entire LMA or SDA does not meet the 6.5 percent unemployment criterion, it is to the state's advantage to gerrymander the ASU using local-level data, despite their inaccuracies.

Another problem with SDA-level ASU factor estimates is that states differ in the methodology used: some states use the same ASU definitions for both state and sub-state estimates, while others (including some whole-state ASUs) redefine ASUs for SDA allocation. This difference could cause inequities across similar areas, since some states target more of their ASU funds to the areas of highest unemployment than other states do.

5.7 Summary of Issues Concerning Data Sources for JTPA Allocation Formulas

This chapter has reviewed the strengths and weaknesses of the four data sources used to determine JTPA allocations to the states and SDAs: the 1980 Census, the Lower Living Standard Income Level series, the Current Population Survey, and the Local Area Unemployment Statistics program. All of these sources have the potential to make JTPA allocations more or less equitable and stable. For each of these sources, our review has identified key issues and options for consideration by the Department of Labor.

The main concern about the 1980 Census is that it is becoming outdated and will be even more so by the time the 1990 Census data are available. As the discussion in Section 5.2 has shown, the distribution of the economically disadvantaged can shift substantially over ten-year as well as five-year periods. Thus, the portion of the JTPA Title IIA and IIB allocations made on the basis of the Census estimates of the economically disadvantaged is gradually becoming less and less consistent with the actual distribution of that population. The size of the resulting inequities in funding makes it quite important to consider the options for updating the Census estimates of the economically disadvantaged. These options are discussed in Section 6.2.

The second main limitation of the Census estimates of the economically disadvantaged population is that they do not currently conform with the legislative requirements. Specifically, unemployment compensation and child support payments are not excluded from calculations of income. As a result, some states with relatively high levels of these types of income may have estimated ED shares that are significantly lower than their shares as defined by JTPA. The evidence on the distribution of unemployment compensation and child support suggests that this is an important consideration in reviewing and assessing any alternative data sources.

Limitations also exist with respect to the validity of the Lower Living Standard Income Level (LLSIL) data series, which is used in determining ED status. The LLSIL has not been considered statistically valid since it was discontinued in 1982. There are significant methodological issues and cost considerations that must be confronted by any effort to restore the validity of this data series. The alternatives to the LLSIL include the Office of Management and Budget poverty thresholds and indicators of labor market hardship (such as the Earnings and Employment Inadequacy Index). Because of the basic strengths of the LLSIL approach and the need for a widely accepted standard, further efforts to develop a revised LLSIL methodology that is valid and fiscally feasible would be worthwhile.

The major limitation of the Current Population Survey (CPS) is its size, which does not permit SDA-level estimates of unemployment. (The question of using the CPS for ED estimates is discussed in Section 6.2.) While expansion of the CPS would be beneficial, the cost of SDA-level estimates would be enormous, and any expansion is unlikely given the limits on the available resources. The validity of the CPS for JTPA allocations is affected somewhat by problems of undercounting, but the Census Bureau has made substantial improvements to overcome these problems. Furthermore, the CPS provides timely annual estimates of state unemployment with low variance and a minimum of bias.

The principal issue concerning the Local Area Unemployment Statistics (LAUS) data is that they are based on administrative data sources with uneven coverage and synthetic adjustments of uncertain validity. As a result, the quality of the data used for SDA-level allocations varies widely, creating significant potential for both instability and inequities. There is a wealth of data and statistical techniques available to improve the LAUS estimation methodology. Furthermore, the CPS annual estimates of employment and unemployment for some SDAs may be as reliable as they are for the smallest states and could be an improvement on the LAUS data.

The most problematic use of the CPS and LAUS employment data is in the estimation of numbers of unemployed in areas of substantial unemployment (the ASU factor). The level of error in the CPS and LAUS data could cause legitimately eligible areas to miss the single cutoff value of 6.5 percent unemployment and to be excluded from the ASU estimates. The discretion given to the states in drawing state-level ASU boundaries and the incentive of potentially greater funding encourage the use of the lowest quality data. Inconsistencies across states in methods for sub-state ASU counts also create the potential for inequities. To be fair and stable, the ASU factor requires far more accurate data, especially at the local level, than can be feasibly obtained. Given the limitations of the data, it would be desirable to deemphasize or eliminate this factor.

6.0 IMPROVING THE TITLE IIA AND IIB ALLOCATION FORMULA

The purpose of this final chapter is to assess various alternatives for improving the current JTPA Title IIA and IIB formula. Specifically, we focus on three major areas of potential improvement in the overall JTPA resource distribution process, including:

- Improving the equity of the current formula
- Improving measurements of the eligible population
- Improving funding stability.

Improvements in these three areas can be accomplished through a wide variety of modifications to the current allocation formula. To this end, we review alternatives that range considerably in scope and complexity, such as reweighting the existing formula, modifying the definition of current formula factors, restructuring the distribution process, using new sources of data to measure formula factors, and restructuring the formula with completely new measures. Our intention is to present a balanced assessment of various formula alternatives that can serve as input for future policy debates.

6.1 Improving Funding Equity Under the Title IIA and IIB Formula

Our approach to assessing the equity of the JTPA allocation formula has been based largely on the premise that JTPA resources should be distributed according to the distribution of the eligible population. We have demonstrated that the current Title IIA and IIB formula, however, does not fully achieve this equity objective. Rather than targeting funds directly toward the eligible population, the formula is heavily influenced by unemployment-based factors that have a limited relationship with measures of economic disadvantagedness. Moreover, even if this problem were addressed through reweighting the formula factors, distributional inequities would still remain due to the repooling step of the current two-tier allocation process. Thus, improvements in the distributional equity of the JTPA allocation formula can potentially be achieved through either or both reweighting the formula factors or eliminating the repooling step in the existing two-tier distribution process.

To assess the results of directing more weight to shares of the ED population, we simulated the SDA allocation process using six different weighting schemes which increasingly emphasized the economically disadvantaged factor. The results are presented in Exhibit 6.1. Consider first Option 6, in which the ED factor receives 100 percent weight, as a baseline for comparing the results of each other option. As can be seen, under this option of "perfect equity," mean per capita funding is $50.16 with a standard deviation of 3.41. In addition, proportionately more funds are targeted to central cities, reflecting the geographic distribution of the eligible population.

As would be expected, placing increasingly more weight on the disadvantaged factor does indeed improve the distributional equity of the allocation formula. Moving from Option 1 to Option 5, we can readily observe improvements in the equity of the funding distribution. Mean per capita funding and its standard deviation steadily decrease, central cities receive increasingly larger funding levels, and the East North Central region, accounting for a relatively large share of the unemployed, experiences the greatest loss in funding.

The distributional inequities created by the two-tier repooling process can be addressed through either one of two means. The first involves the use of a direct one-tier formula in which the SDAs receive funding directly from the Secretary. The second is the use of a variable weight allocation which retains the state pass-through but eliminates the repooling step.

Our review of these two alternatives in Chapter 3 indicated that both were successful in increasing the funding equity of those SDAs receiving the lowest per capita funding levels under the current two-tier approach. Both were also more appealing in that the distribution process is more likely to be intuitively understood without the artificial repooling step.

In assessing these options a number of related factors should be considered. First, the adoption of a direct one-tier distribution method would make the continued use of the ASU factor somewhat problematic. Since SDA allocations would be based upon shares of national totals, a complete count of the nation's ASU unemployment would have to be assembled. Using current methodologies, this would generate a number of problems since state ASU unemployment is not necessarily the sum of all SDA ASU unemployment. This problem would of course be eliminated if the ASU factor were dropped or replaced.

Exhibit 6.1

Effects of Varying Weights on Current Allocation Formula

	Current Formula	Option 1	Option 2	Option 3	Option 4	Option 5	Option 6
Formula weight							
Economically disadvantaged	.33	.50	.50	.60	.75	.75	1.0
Excess unemployment	.33	0.0	.50	.20	.25	0.0	0.0
ASU unemployment	.33	.50	0.0	.20	0.0	.25	0.0
Overall per capita funding							
Mean	$55.61	$54.48	$53.81	$53.33	$51.95	$52.25	$50.16
Standard deviation	23.83	16.81	21.47	14.30	11.46	8.60	3.41
Per capita funding by geographic area							
Central city	$45.84	$48.59	$45.81	$47.85	$48.20	$49.67	$60.56
Rural	$55.86	$53.06	$55.83	$53.71	$53.19	$51.68	$50.29
Mixed	$57.81	$57.03	$54.25	$54.41	$51.96	$53.36	$50.02
Geographic distribution							
New England	3.3	3.9	3.3	3.8	3.9	4.3	4.7
Mid Atlantic	15.6	15.8	15.6	15.8	15.8	15.9	16.0
East North Central	22.0	19.2	21.6	19.5	18.6	17.4	15.6
West North Central	5.7	6.1	5.7	6.1	6.2	6.4	6.7
South Atlantic	14.1	15.5	14.1	15.2	15.5	16.2	16.9
East South Central	8.6	8.2	9.1	8.6	8.8	8.4	8.5
West South Central	10.5	11.0	10.5	10.9	11.1	11.3	11.6
Mountain	4.5	5.0	4.5	4.8	4.9	5.1	5.3
Pacific	15.7	15.3	15.6	15.3	15.2	15.0	14.7
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Central city	29.7	31.1	30.5	31.3	32.1	32.4	33.7
Rural	30.8	29.6	31.5	30.6	30.9	29.8	30.0
Mixed	39.5	39.3	38.0	38.1	37.0	37.8	36.3
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Sources: USDOL allocation data
NACO survey of SDA allocations

Second, adopting the direct one-tier distribution method may also entail changes in the current legislation. It would require that the JTPA legislation specify exactly how states will receive their allotments. Currently, allotments are based on the states' relative share of three equal size factor pools. The governor, under Title IIA retains 22 percent of this allotment and uses the remaining 78 percent to distribute among SDAs. Under a direct one-tier approach several alternatives could be considered:

- Set aside 22 percent of the national allocation and apply the existing state formula (including the hold harmless) to this reduced pool. The remaining 78 percent would be allocated directly to the SDAs.
- Similar to the approach above, set aside 22 percent of the national allocation for distribution to states. Before allotments are made however, the remaining 78 percent of the funds would be directly allocated to the SDAs. The 22 percent would then be allotted to states based on the same share that the State's SDAs captured of the 78 percent pool (e.g., if New Mexico's SDAs collectively received 2.0 percent of the 78 percent pool, the state of New Mexico would receive 2.0 percent of the 22 percent pool).
- Allocate funds directly to the SDAs from the the full national pool. The state could then assemble its 22 percent share by proportionally "taxing" each SDA.

The use of a variable weight allocation, in contrast, poses comparatively few disruptions to the current system. By retaining the state level hold harmless it has minimal implications for the state allotment process. However, it appears to significantly improve both the clarity and equity of the sub-state allocation process by eliminating the somewhat artificial repooling of funds by the governor.

6.2 Improving Measurements of the Economically Disadvantaged Population

Much of our assessment of the JTPA allocation formula was guided by the premise that the Title IIA and IIB programs are targeted on the poor and near poor. This premise is highly consistent with the legislation, which specifies an income-based eligibility criterion and emphasizes services to welfare recipients and economically disadvantaged high school dropouts. As such, the allocation formula should reflect these program priorities by establishing a hardship-based measure as the focal point.

The formula factor currently used to measure economic hardship is the "economically disadvantaged" measure. This measure is a precise reflection of economic hardship since it is income-based and adjusted for family size and regional cost of living. In spite of its conceptual appeal, however, the current measurement of the economically disadvantaged population for allocation purposes has several key shortcomings.

First, as we noted earlier, the Census-based estimates of the ED population become increasingly outdated as we progress through the decade. Second, the current ED measure has not been refined to reflect the distribution of the age groups to which JTPA is likely to target services. As such the allocation of funds may not completely reflect the distribution of the more well defined target populations. Third, Census data are not capable of providing the detail needed to precisely define the ED consistently with the legislative definition. Most notable is its inability to disaggregate and effectively discount child support and UI income from family totals. Finally, the ED estimates are subject to the outdated regional cost of living differences provided through the BLS Lower Living Standard Income Level series.

The purpose of this section is to review and assess a number of options that can potentially provide a more refined and more current estimate of the economically disadvantaged population. Our primary emphasis will be on examining the feasibility of using the Current Population Survey to provide annual state-level estimates of the ED population.

6.2.1 Improving the Definition of ED for Formula Purposes

Currently, the ED factor used to distribute Title II resources includes individuals of all ages. From a conceptual perspective, the use of this definition raises several questions. First, the use of the total ED population for distribution of Title IIB funds is somewhat inconsistent with the focus of the summer program (Title IIB) on youth ages 16-21. From this perspective, it would be appropriate to use a formula factor that directly reflected the program's target population.

Since a slightly larger proportion of the ED youth population are concentrated in central cities, targeting this population would be one way to address the criticism that these areas are underfunded for the summer program. Census figures for 1980 reveal that 34.5 percent of the ED youth population reside in central city SDAs, compared to 33.6 percent of the total population. Although the difference may appear small, it could result in a sizeable addition to resources available for the summer program in any one SDA.

The issue of age specification is also evident in the Title IIA formula. Since the JTPA eligibility criteria target ages 16 and above, the formula factor should be defined consistently. In a similar vein, it has also been suggested by practitioners that an age cap be applied to the formula since only a minimal number of the ED elderly are likely candidates for enrollment in JTPA.

In practical terms these changes only become important if the various ED cohorts vary in their geographic distribution. That is , if the modified definition entails no distributional difference, then the change will not result in any reallocation of JTPA funds. Exhibit 6.2 presents the geographic distribution of these ED sub-groups. The only notable difference is the increased concentration of ED youth in the central cities which would have implications for the distribution of Title IIB funds. The use of an age floor and ceiling (16-65) for Title IIA appears to result in few significant distributional shifts. The absence of such difference suggest that these minor modifications to the factor definitions would have little bearing on major concerns of distributional equity.

Although conceptually appealing, the use of age constraints may impose important data limitations. The constraints largely concern any efforts to use sample data from, for example, the Current Population Survey to generate updated estimates of the ED population. Establishing reliable estimates becomes increasingly difficult as the size of the sample decreases. Therefore, any decisions to modify the ED population by age factors may have some adverse impact on the ability to replace or update census based ED estimates with more recent sample data. The impact of course is greater as the sub-divisions become smaller. Therefore, the use of an "ED age 16-21" formula factor for Title IIB is more problematic in this regard than adopting a "ED age 16-65" formula factor for Title IIA.

Exhibit 6.2

Geographic Distribution of Select Economically Disadvantaged Cohorts by Region and Type of Area

	E.D. (Total)	E.D (16 plus)	E.D. (16-21)	E.D. (16-65)
		25,330 (100.0%)	4,199 (100.0%)	19,696 (100.0%)
Region				
New England.	4.6	4.8	4.5	4.6
Middle Atlantic	16.0	16.2	15.9	16.1
East North Central	15.6	15.4	15.5	15.5
West North Central	6.6	7.1	7.0	7.0
South Atlantic	16.8	16.5	16.7	16.9
East South Central	8.5	8.3	7.3	7.8
West South Central	11.6	11.4	12.6	11.2
Mountain	5.3	5.5	5.5	5.8
Pacific	14.7	14.5	15.5	15.2
	100.0½	100.0%	100.0%	100.0%
Type of Area				
Central City	-	38.4	41.1	39.6
Urban Fringe	-	20.6	20.7	21.1
Urban Outside	-			
Urbanized Area	-	14.0	15.6	13.9
Rural	-	27.0	22.6	26.0
	-	100.0%	100.0%	100.0%

* Distribution includes only public assistance recipients who are economically disadvantaged.

** Does not exactly mirror JTPA targeting proverty which specifies proportional service to E.D. high school drop-outs.

Sources: 1980 Census of Population and Housing, Public Use Micro Data Sample

6.2.2 Options for Improving the Currency of the Estimates of the ED Population

In light of the problems associated with the currency of the decennial Census, we explored a number of other data sources from which estimates of the ED population could conceivably be generated. This review was conducted in order to determine if further investigation was warranted.

Conduct of a Comprehensive Mid-Decade Household Survey

Conceptually, a desirable option would be to establish a mid-decade census or household survey designed to provide detailed state and sub-state estimates of the economically disadvantaged population. Such an effort would be similar to the Survey of Income and Education (SIE) conducted in the mid-1970s by the Department of Health, Education and Welfare. This special survey was designed to provide information on the number and distribution of school age children in families below the poverty level.

Unfortunately, proposing such an option may not be a very practical short-run solution to this problem. Mid-decade censuses have been discussed for many years and have never had the necessary support even in times of fewer federal budget constraints. Similarly, the funds for a special survey, regardless of its desirability, would likely be a low priority item given recent efforts to reduce the scope of various BLS data collection activities.

The Survey of Income and Program Participation (SIPP)

The Survey of Income and Program Participation was developed by the Department of Health and Human Services as a result of concerns over the shortcomings of the March Work Experience Supplement to the Current Population Survey. The most noteworthy shortcomings included (Nelson et al., 1983): (1) underreporting of such information as property and irregular income; (2) misclassification of participation in major income security programs and (3) insufficient information needed to analyze program participation and eligibility.

The key strengths of the SIPP data are that they include extremely detailed information on personal and family income. This includes both money and non-money sources and significant detail on government transfers. The sampling structure is such that the data include both a cross sectional and longitudinal component. From an allocation perspective, however, the SIPP has one major drawback. It is currently designed as a national survey with only minimal capability to provide data on a state by state basis. In spite of its useful amount of income detail, the relatively small sample size (approximately 20,000) prevents its immediate use as a substitute for the Census based ED estimates.

The Lawrence Berkeley Laboratory Census Updating Program

Another option is to expand the Census updating program currently being carried out under contract by the Lawrence Berkeley Laboratory (LBL) for select state JTPA administrations. The primary purpose of this program is to provide updated state and sub-state estimates of the size and characteristics of the population. These data rely upon the Current Population Survey for benchmarking the decennial Census and to date, have been primarily used for planning and program design purposes. Given the nature of the methodology, it would appear that this is the most appropriate use and that such an approach can not be fully relied upon for allocation purposes.

The primary shortcomings of the methodology are fully acknowledged by LBL staff. In a recent planning document they note that:

> "an obvious criticism to the procedure is that regional and state CPS data are used to update local data from the 1980 Census. In other words, the CPS and Census tables cover different areas. It is unlikely that the local-area change is the same as that of the state or region..." (Lawrence Berkeley Laboratory, 1984)

It is also pointed out that the two data sources (the CPS and the Census) often have quite different definitions for various categories which "may affect the validity of the results." It must be stressed that our point is not to overly criticize LBL efforts to update Census information. In fact, we fully endorse the preparation and dissemination of data that can promote a more rational planning process within the JTPA system. Our intent in emphasizing several methodological limitations, rather, is to suggest that the data series cannot readily expand beyond its current use and provide highly defensible estimates of the JTPA eligible population for allocation purposes.

The Current Population Survey, Annual Work Experience Supplement

The Current Population Survey (CPS) is a monthly household survey designed to capture the socioeconomic and labor force characteristics of the working age population. Several supplements to the survey are conducted annually to provide more detailed information on certain topics and population sub-groups. Of particular importance is the March Work Experience Supplement which, among other information, captures data on the work experience, earnings, and other income of sample respondents during the previous year. The availability of these data, coupled with select information on public assistance status, suggests that this survey may be useful in generating comparatively recent estimates of the ED population.

A preliminary investigation of this data sources revealed a number of key strengths. First, the CPS is a methodologically rigorous survey that is already in place. As a result, minimal additional cost would be incurred in adopting a new source of ED estimates. Second, the CPS is already used in part, to provide state level unemployment estimates currently used for JTPA allotments. As a result, the CPS is a known commodity to the U.S. Department of Labor and the JTPA community.

In relation to the Census, the CPS is more flexible and thus has a greater capacity to capture the full definition of the ED population that is contained in the legislation. In addition, the sampling frame has recently been redesigned to insure a much greater level of accuracy for each state. This is clearly a relevant development in considering these data for use in the allocation formulas.

The biggest drawback to using the CPS is its size, which may limit the extent to which ED estimates for sub-state areas can be generated. However, the advantages outlined above strongly suggested that the CPS Work Experience Supplement may well be a viable source of data for updated estimates of the ED population. In the remainder of this section we present detailed analysis of the use of the CPS household survey and its March supplement for estimating state and local shares of the ED population.

Methods for Deriving CPS-Based Estimates of the ED Population

The CPS, like all sample surveys, provides estimates that are subject to sampling error. The degree of sampling error for state estimates of the economically disadvantaged population will be larger than that associated with national or regional estimates because the state sample sizes will be smaller. If we let $\hat{X}_h$ represent the sample estimate for the h-th state of the number of economically disadvantaged persons, then we can judge the relative sampling error of this estimate by computing the coefficient of variation.

$$CV(\hat{X}_h) = \frac{\text{standard error }(\hat{X}_h)}{\hat{X}_h}$$

The coefficient is the best measure of reliability to use when one is evaluating a set of estimates (e.g., 52 state estimates) that vary in size by a large degree (e.g., the number of economically disadvantaged persons in California is much greater than in Rhode Island). Although there are no universal standards as to what represents an acceptable coefficient of variation, it can be said that a CV of 5 percent represents an excellent relative error, a CV of 10 percent represents good relative error, and a CV of 30 percent is the largest relative error that would generally be deemed acceptable for the publication of a statistic even for purely descriptive purposes.

Keeping these numbers in mind, we have made an initial assessment of the applicability of using a single March CPS sample to provide state estimates of the economically disadvantaged population and have explored as well the possibility of combining two or more March CPS samples in order to improve the relative error of the state estimates. Before we present our findings, it is worth briefly describing the CPS design since it has changed over time.

The CPS sample in place for the March 1980 to March 1984 surveys was initially selected from the 1970 Census files with coverage in all 50 states and the District of Columbia. The 461-area sample was put in place after the 1970 Census was supplemented in 1975 by 14,000 interviews each month. This additional sample supplemented the national sample of 58,000 monthly assigned interviews in 26 states and the District of Columbia. A total of 105 new PSUs was involved. This supplement was added to meet specific reliability standards (a coefficient of variation of 10 percent or less) for estimates of the annual average number of unemployed persons for each state. This modification of the sample was in response to growing pressures for state data estimates mandated by law for the implementation of federal revenue sharing programs (Hamel 1980). Because the national CPS sample was supplemented on an ad hoc basis to provide data for states, the design was not optimized for the provision of state estimates. For example, strata from which the Primary Sampling Units (PSUs) were selected can cut across state boundaries. The March CPS was located in 629 areas comprising 1,148 counties, independent cities, and minor civil divisions in the U.S. Approximately 61,500 households were eligible to be interviewed. Details of the sample design can be found in Bureau of the Census (1978).

Beginning in April 1984, the CPS design described above was phased out through a series of changes that were completed by July 1985. The current CPS sample was selected from the 1980 Census files. The new sample is located in 729 PSUs comprising 1,973 counties independent cities and minor civil divisions, and contains approximately 60,500 occupied housing units.

The redesign of the CPS involved defining strata from which the PSUs were selected that do not cross state boundaries. The estimation procedures used in the redesigned CPS involve inflating the weighted sample results to independent estimates of the total civilian noninstitutionalized population by age, sex, and Hispanic/non-Hispanic post-stratification cells. The redesigned CPS will maintain or reduce somewhat the relative error associated with annual state estimates. The two primary objectives of the redesign were to, first, maintain reliability of national monthly estimates and second, meet the following state reliability specifications:[1]

- 8 percent monthly coefficient of variation or better for the 11 largest states
- 8 percent annual coefficient of variation or better for the remaining 40 states.

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[1] Full details of the redesign of the CPS can be found in Current Population Reports (1986).

The computation of standard errors for state estimates uses the Census-developed standard error approximation method. For example, the standard error of an estimated percentage (e.g., the percent of the population of a state that is economically disadvantaged) is obtained from the following formula:

$$s.e.(p) = \sqrt{f \frac{b}{x} p(100-p)}$$

where

x = The base of the percentage

p = The percentage

b = The standard error parameter associated with the characteristic

f = The state adjustment factor

For poverty-related variables at the total person level the most current b parameter equals 9,628. The state adjustment factors are shown in Exhibit A.5.

Our investigation using the redesigned CPS to provide annual state estimates of the economically disadvantaged population makes use of the March 1985 CPS. As a proxy for this variable of interest we use the percent of the population age 14 and over below the poverty level. This proxy variable is available directly from the CPS and does not need to be created from other CPS variables.

We first estimated p for each state and then calculated the associated standard error and coefficient of variation. The results are also shown in Exhibit A.10. Coefficients of variation for 10 of the 51 states are 10 percent or less. Coefficients of variation for 11 states are, however, .20 or greater, which does not represent a high degree of precision.

The precision of state estimates can be improved by combining estimates from two or more March CPSs. This will not only reduce the standard errors of state estimates but also lead to more stability from one allocation year to the next in the state ED estimates. The stability results from the overlap in the CPS sample used to form the estimates for each allocation. We illustrate this assuming two March CPS samples are combined for each of the following four allocations:

1. March 1985 with March 1986
2. March 1986 with March 1987
3. March 1987 with March 1988
4. March 1988 with March 1989

There are several methods for combining estimates from two CPS samples. They include simple averaging, a weighted average using weights that reflect the sampling error of the estimates, and lagged weighting that gives the latest CPS sample greater weight. Although the 1986 March CPS data is not yet available, we can estimate the state coefficient of variations that would result from a simple averaging of the March 1985 and 1986 estimates using the following formula:

$$\text{two-year CPS standard error} = \sqrt{\frac{\text{s.e.}(p_{1985})^2 + \text{s.e.}(p_{1986})^2 + 2r\ \text{s.e.}\ (P_{1985})\text{s.e.}(P_{1986})}{4}}$$

where r is the correlation between the 1985 and 1986 estimates of total persons 14+ below the poverty level. The Census Bureau estimates that r will equal 0.45. Assuming that the standard errors for the 1985 and 1986 samples will be approximately equal simplifies the above formula to:

$$\sqrt{\frac{2\ \text{s.e.}\ (P_{1985})^2 + 2r\ \text{s.e.}\ (P_{1985})^2}{4}}$$

$$= \sqrt{\frac{\text{s.e.}\ (P_{1985})^2 + r\ \text{s.e.}\ (P_{1985})^2}{2}}$$

The coefficient of variation for the combined estimates is approximately equal to the above standard error divided by p_{1985}. The results of our calculations are shown in the last column of Exhibit A.10. Thirteen out out of 51 states now have expected coefficients of variation of 10 percent or less. Twenty-two of the remaining states have coefficients of variation of 15 percent or less. Only three states continue to exhibit coefficients of variation of 20 percent or higher.

The use of two combined years of CPS estimates thus represents a considerable improvement over the use of one year. However, the range of coefficients of variation still requires that judgments be made regarding improved currency of these data in relation to the precision of the estimates. Further gains in precision would result if three combined years of CPS estimates were used.

Finally, it should be noted that the use of such updated estimates of the ED population from the CPS still requires the use of Census-based information to establish substate estimates. The easiest approach is to apply the same ED shares that have been used in past years to the updated state base.

The Application of Small Area Estimation Techniques to the Provision of State Estimates of the Economically Disadvantaged Population

In the previous section the development of direct state estimates of the economically disadvantaged population from the CPS was discussed. Our investigation indicates that it is necessary to combine March CPS samples from at least two years to provide reasonably precise estimates for most of the states. The question therefore arises whether it is possible to use a single March CPS sample (i.e., the most current) in conjunction with other sources of data to derive indirect state estimates of the economically disadvantaged population. This section explores the possibility of developing this type of state estimate by applying the statistical methodology known as small area estimation.

In the late 1960s and early 1970s there was an increased demand for small area estimates of various characteristics of the population at the state and sub-state level for planning and allocation purposes. Large-scale population surveys were generally of sufficient size to provide national and regional estimates but not reliable state estimates. Cost-effective methodologies were needed to produce estimates with reasonable accuracy. The National Center for Health Statistics (1968, 1977) and the U.S. Census Bureau (1974) played major roles during this time period in the development of several alternative small area estimation methods which we will describe below.

Synthetic Estimation

Synthetic estimation is a two-step process. First, large-scale sample data is used to estimate, generally at a national level, the variable of interest (e.g., the number of disabled persons) for different sub-groups of the population. Second, these sample estimates are then scaled in proportion to the sub-group incidence within the small area (e.g., state) of interest. For example, national estimates of the economically disadvantaged population, cross-tabulated by age, sex, and race, could be scaled by the proportional incidence of these sub-groups in each state to estimate the size of the economically disadvantaged population in each state.

The synthetic estimator, $\hat{x}_{SYN,h}$, the total for a characteristic x in small area h can be written as (Purcell and Linacre 1976, Purcell 1979):

$$\hat{x}_{SYN,h} = \sum_g \hat{x}_{hg} = \sum_g (N_{hg}/N_{\cdot g})\hat{x}_{\cdot g},$$

where

N_{hg} = The number of persons in the h-th small area who fall into the g-th sub-group

$N_{\cdot g}$ = The number of persons across all small areas who fall into the g-th sub-group

$\hat{x}_{\cdot g}$ = The large-scale national sample estimate of the number of persons with characteristic x who fall into the g-th sub-group

The values of N_{hg} are established from the most recent Census or depending on the sub-group variables employed from demographically derived inter-censal population estimates that can be obtained from the Census Bureau. The key issue in defining the sub-groups is to employ variables that are highly correlated with the characteristic of interest.

Synthetic estimates reduce variances of state estimates when compared with direct state estimates. They are, however, biased estimates. Bias results from two conditions. First, there may be a departure from the underlying assumption of homogeneity of rates. In other words, the synthetic estimator assumes that the distribution of the characteristic of interest varies between states only to be the extent that states vary in their sub-group composition. Second, the weights, $N_{hg}/N_{\cdot g}$, may no longer accurately reflect the current structure of the state populations if the N_{hg} values come from the last decennial Census. This can often be remedied by using demographically derived inter-censal estimates of sub-group incidence. The first assumption, therefore, is more likely to introduce bias. If this assumption is not correct, the amount of error introduced into the synthetic state estimates cannot generally be quantified. As a partial solution to this problem, Gonzalez and Waksberg (1973) suggested the use of an average mean square error that provides an estimate of the average accuracy of a set of synthetic state estimates.

The Synthetic-Regression Method

The need for population counts for local areas has led demographers and statisticians (Ericksen 1971, 1974) to develop a regression equation using symptomatic indicator variables, measured for each local area, as predictor variables, and current sample data for the variable of interest as the dependent variable. For example, the estimated population of each CPS Primary Sampling Unit can be used as the dependent variable and a set of symptomatic indicators, for the same PSUs, as the predictor variables in a regression equation. The resulting equation can then be used to estimate the population of the local areas of interest by using symptomatic indicators for the local areas.

The concept of using regression methods was proposed by Levy (1971) as a way to improve on the synthetic estimator by better accounting for local factors (e.g., the opening or closing of a factory). The synthetic-regression method uses symptomatic indicators for the small areas in conjunction with the synthetic estimator. This regression model can be written as:

$$x^{*}_{SYN-REG,h} = a + by_h + e_h$$

where

$$x^{*}_{SYN-REG,h} = ((X_h - \hat{x}_{SYN,h})/\hat{x}_{SYN,h})100$$

and

X_h = The true population value for the h-th small area of the characteristic of interest

y_h = The value of the symptomatic indicator

a and b = The regression coefficients to be estimated

e_h = The error term

The value of X_h is unknown, and therefore to estimate a and b, small areas need to be combined to form strata from which reasonably precise unbiased estimates of X_h can be formed. Levy (1975) combined states to form strata in order to provide synthetic-regression estimates of work loss disability for states.

The success of the synthetic-regression method is dependent on the use of symptomatic indicators that reflect local conditions related to the variables of interest. For a characteristic such as the economically disadvantaged population examples of the state-level symptomatic indicators that would be required include the number of persons receiving welfare, the number of persons not in the labor force, the number of unemployed persons, and the number of high school dropouts.

The Categorical Data Approach

Purcell and Kish (1979) have proposed that small area estimation be addressed in a categorical data framework developed by Deming and Stephan (1940). The categorical data approach requires two basic types of information; first, an association structure which establishes for the h small areas the relationship between the characteristic of interest and a set of sub-group variables (i.e., association variables); second, an allocation structure which represents current survey data, generally at a national level, that updates this relationship at the larger area level. The association structure is updated by an iterative fitting algorithm to agree with the marginal distribution found in the up-to-date allocation structure. The small area estimates are then derived by summing the appropriate cells of the updated association structure. Heeringa (1981) has applied this approach to derive small area estimates from the SIPP. Chambers and Feeney (1977) discuss an application of this approach to the estimation of small area estimators of work force status.

Composite Estimators

The small area estimation methods previously discussed all use a current large-scale survey at the national level. Research by Schaible et al. (1977) and NCHS (1978) indicates that improved (i.e., more accurate) estimation of state characteristics can be achieved by combining the small area estimator with a direct state estimator derived from the survey. A weighted sum of these two components forms the component estimator:

$$x_{COMP,h} = W_1\hat{x}_h + (1-W_1)\hat{x}_{SYN,h}$$

where

$\hat{x}_h$ = The direct sample estimate from the CPS for the h-th state

W_1 = $n_h/(n_h + b/b')$

n_h = The CPS sample size in the h-th state

b/b' = The sample size at which the expected errors of the direct and small area estimators are equal

The most important aspect of the development of the component estimator is the derivation of the weights W_1 and $1-W$, which, in effect, weight the two estimators by their degree of accuracy.

In summary, the small area estimation approach would appear to hold considerable promise for providing up-to-date annual state estimates of the number of economically disadvantaged persons. Several issues should however be investigated:

- Assess the extent to which small area estimation is being used by federal, state, and local government agencies to allocate funds to local areas.
- Evaluate the performance of the alternative small area estimation techniques for providing accurate state estimates of the economically disadvantaged population.
- Explore the improved accuracy that the composite estimator may be able to provide.
- Assess accuracy by computing the estimates for 1980 and comparing the results with 1980 Census data.

The Application of Small Area Estimation Techniques to the Provision of SDA Estimates of the Economically Disadvantaged Population

The small area estimates technique discussed in the previous section can also be applied to the estimation of SDA level characteristics such as the number of economically disadvantaged persons. Currently, 1980 Census data is used and likely will be used until the early 1990s when the next Census results become available. Because there are nearly 600 SDAs in the U.S. it is likely that local area conditions have greater effects on the number of economically disadvantaged persons than the out-of-date Census figures indicate.

The application of small area estimation methods such as the synthetic-regression method which make use of symptomatic indicators that reflect local conditions therefore appears to be worth investigating. Gonzalez and Hoza (1978) have applied this method to derive estimates of unemployment at the county level of geography. Symptomatic indicators for SDAs might be derived from state records, BLS reports, or even a brief questionnaire sent to all SDAs. Furthermore, for the larger SDAs it may be possible to form a composite estimator by using the CPS PSU located in those SDAs to provide a direct sample estimate.

Because it is likely that the development of up-to-date annual SDA level estimates could be subject to criticism due to the indirect nature of the estimators, any evaluation of this possibility should investigate the accuracy of the estimates. This could be accomplished by forming the SDA estimates for 1980 and comparing the results with 1980 Census data.

6.2.3 Alternatives to the Economically Disadvantaged Measure

In light of the measurement problems associated with the current ED factor we felt it was important to review other factors that could potentially encompass the same hardship/poverty-based concept. To be seriously considered, alternative factors would have to generate improvements with respect to definitional consistency with the Act, data accuracy, availability, currency or cost. It should also be noted that such improvements would have to be significant rather than marginal in order to justify incorporation into the formula. At this point, the ED concept and definition are quite familiar to, and accepted by, the employment training community. We would therefore not consider it advisable to replace a solid, well understood formula factor for only marginal gain.

With this premise as a backdrop, a number of measures of economic hardship were reviewed. Limited project resources precluded gathering actual data on all of these factors, so our review will primarily focus on the conceptual and practical merits of each potential factor.

Adults in poverty: Poverty guidelines are issued by the Office of Management and Budget to reflect the amount of income needed by families of varying sizes to meet basic nutritional requirements. These thresholds are adjusted annually using the Consumer Price Index to reflect the changing cost of living. Determination of poverty status is based on total money income of the family during the year of determination. No adjustments are made to reflect regional variations in the cost of living.

Much like the economically disadvantaged factor, this measure is based on family income with counts thus available from the decennial Census or more frequently on a sample basis from the March CPS Supplement. The adult poverty population is a somewhat more restricted population than the ED although for the most part quite similar. A partial correlation holding population size steady indicates a .98 coefficient, which is a quite high degree of association. In relation to the ED measure, however, the adult poverty measure is hampered by the absence of regional cost of living estimates.

Number of low-income adults: JTPA presently allows four states containing rural Concentrated Employment Programs (CEPs) to use counts of low-income adults as a substitute for the ED factor. This measure is defined as the number of adults in families with incomes below the "low-income level," which was about $14,000 in 1979. Using this factor, states substantially increase their share of the ED funding pool.

Because this standard does not vary by family size or region, the low-income adult count is somewhat simpler to calculate than the ED count. However, annual estimates of this factor from the CPS would have the same amount of sampling error as ED estimates because sampling error is independent of the income standard applied to each household. Thus, the use of the low-income adult factor would not provide any significant benefits to offset the lack of adjustments for family size and regional differences in the cost of living.

Hardship measure for those with labor force attachment: The use of a measure of hardship restricted to those with a degree of labor force attachment reflects an effort to combine unemployment and poverty concepts into a single measure. Its relevance from a JTPA allocation perspective is that it has the potential to distribute funds based on an "efficiency" criterion. Compared to the current ED factor, a measure which only reflects poor people with significant labor force attachment will likely be a better reflection of that segment of the population that the JTPA system is likely to enroll and effectively serve. In other words, the formula would be allocating funds in a manner which most likely reflects its most productive use.

Over the past fifteen years a number of indices have been constructed to measure such labor market related hardship. One of the most well known is the Earnings Inadequacy Index proposed by Levitan and Taggart (1974). The index is structured as a ratio with the numerator consisting of:

- Unemployed, involuntarily part-time, and "discouraged workers"
- Currently employed family heads whose earnings last year were below the poverty level and whose family income was below average

Excluded from the numerator were:

- Persons 16-21 years old who were in school
- Persons 65 years of age and older
- Persons in families with above average annual income

The denominator consists of the civilian labor force plus discouraged workers.

Originally conceived as a national indicator of economic hardship, one of the key questions concerns its utility on a state or sub-state basis for allocation purposes. Cain (1979) notes quite unequivocally that "..such measures do not meet the most pressing need: a measure of hardship that would apply to local areas and serve the intent of the various laws, including CETA, to allocate aid to distressed areas." This is clearly a valid point, although it should be noted that the use of the CPS as described earlier may allow such indicators to be developed at the state level.

In our view however, one of the biggest drawbacks to incorporating such a measure into the allocation formula is that it heavily emphasizes those with strong labor force attachment. Although this group may represent successful JTPA clients, it eliminates the large group of highly disadvantaged individuals to whom JTPA is mandated to target services. In addition, it is not a well recognized, fully established measure. As such, it would be the subject of much scrutiny, controversy and criticism which would all be focused on the JTPA system. Of course, it could be similarly argued that the ED factor was not widely known or used outside the CETA/JTPA systems. The difference, however, is that the ED factor is a minor variation of more traditionally used poverty indicators. A hardship index in contrast, is quite a radical departure from more conventional indicators. Until it has been established and well received at the national level it seems risky and premature to adopt such a factor in the highly decentralized JTPA system.

Number of adults receiving public assistance: The appeal of this factor is that it directly reflects one of the population sub-groups specifically mentioned as automatically eligible for JTPA. Specifically, the Act states that anyone receiving "cash welfare payments" is by definition considered economically disadvantaged and therefore eligible. A count of public assistance recipients could be a low-variance, inexpensive substitute for updated ED counts or a supplemental formula factor.

Information on receipt of public assistance is available from several data sources. The decennial Census contains the most geographically detailed information; however, the information is highly aggregated. That is, the public assistance variable contains information on a considerable range of transfer payments several of which are not appropriate to use for resource allocation under a job training program (i.e. public assistance for the elderly and disabled).

The March Work Experience Supplement of the Current Population Survey contains more disaggregated information but on a limited sample of recipients. Additionally, data on public assistance recipiency can be secured on a state basis from the Social Security Administration or from the administrative agencies (HHS, USDA). Although the Social Security Administration publishes the data on a fairly timely basis, the series provides only aggregate data by program. These data cannot be summed across programs to create a total public assistance factor because of the overlap in recipiency between programs. However, other administrative sources separate out multi-program recipients.

Finally, it should not be overlooked that public assistance data are likely to come from the state welfare departments. Since this information is based on county level intake forms, a considerable degree of inconsistency is likely to exist both within and across states.

In spite of the availability of information there are several major drawbacks to considering a " public assistance recipiency" formula factor. First, the measure only represents a portion of the eligible population. It does not include those whose income from other sources is insufficient to exceed the poverty or lower living standard guidelines. Holding all else equal, it would seem counterproductive to replace the current factor with one that is less encompassing.

Secondly, the use of a public assistance factor would result in the incorporation of differences in state benefit levels and administrative practices into the allocation formula. In other words, if a state makes it very difficult to receive public assistance, their allocation would reflect this public policy decision in addition to the true level of need. To promote equity under a national program, it is important that the funds are allocated according to uniformly measured criteria.

Finally, none of the data sources on public assistance hold appreciably more potential than that currently used (or being considered) to generate ED estimates. Although considerable data exists at the service delivery area level, it is highly impractical to think that it could be uniformly organized for use in a nationally prescribed allocation formula. The information may however, be of some use if the governors are given more latitude in determining the appropriate data for making substate allocations.

Personal Income/Per Capita Income

On an annual basis, the Bureau of Economic Analysis of the Commerce Department gathers quite detailed information on personal and per capita income. Gathered through the Bureau's Regional Economic Information System (REIS) the data series captures total personal income from all sources which is then divided by the total resident population to provide a per capita estimate. This indicator serves as an aggregate measure of the quality of the consumer market and the overall economic well being of the locale.

The potential utility of these data for allocation purposes rests primarily with the detailed level of geographic coverage accompanying the series. Currently, information can be generated for virtually all geographic subdivisions in quite a timely manner. Even at the county level the data can be available in published form within 16 months.

The primary drawback to these data are that they are aggregate in nature and therefore can mask considerable differences in the underlying distribution of personal income. A per capita income indicator, for instance, can not distinguish between a community in which the income distribution is quite uniform throughout, and one in which income is bimodally distributed with particularly heavy concentrations of wealthy and poor residents. From a JTPA allocation perspective, it is likely that the latter community is in greater need of program resources than the former even though their per capita income indicators are identical.

This type of scenario strongly underscores the importance of using, to the extent feasible, household-based data in which actual counts of a target population can be used. This allows for much more comparable data to be gathered for each area, which in turn permits a more equitable and understandable resource distribution process. The ability to determine the income status of each survey respondent remains a key advantage of using the Census or CPS to generate the ED measure currently in use.

In sum, this previous discussion strongly suggests that in spite of its shortcomings the ED factor still most accurately encompasses the labor market problems that JTPA is designed to address. The use of the March CPS is a promising option for improving the currency of the state-level ED estimates, thereby beginning to address one of the major shortcomings of the factor.

6.3 Improving the Stability of the Current Allocation Formula

The final area of concern is the need to improve year-to-year funding stability. Three primary options have been discussed throughout this report.

The first suggests the elimination of the threshold-based unemployment measures. Our findings have demonstrated that both the excess and ASU unemployment measures are comparatively volatile and are likely contributing to funding swings experienced by SDAs. Experimentation with the definition of the excess unemployment cutoff demonstrated that volatility increased as the cutoff level was raised. This suggests that much of the instability results from the diminished base to which SDA shares are applied.

Replacing the ASU factor also reduces the potential for instability by eliminating possible "cliff effects" which result from losing ASU status. The concern over such effects was recognized by the Subcommittee on Statistics for Allocation of Funds (1978), which recommended that if eligibility cutoffs are to be used there be a "gradual transition from receiving no allocation to receiving the full formula amount."

Our findings have also demonstrated that a more stable replacement for these factors is an estimate of total unemployment. In addition, total unemployment is intuitively understood as a legitimate summary indicator of overall economic well being. It successfully avoids the definitional complexities of the ASU factor as well as inherent shortcomings of any threshold-based measure.

Total unemployment figures are available in all states from the Current Population Survey with SDA estimates generated through the LAUS program. In spite of the technical shortcomings noted in Chapter 5, these data sources are quite capable of providing geographically detailed information on the unemployed population with minimal time lag. The combination of these attributes strongly suggests that a total unemployment factor be seriously considered for incorporation into the Title IIA and IIB formula.

A second alternative for promoting funding stability is the use of extended reference period in the calculation of state and SDA factor shares. Combining one or more years of data can serve to effectively reduce funding swings by averaging changes in factor shares over a longer period. This in effect "smooths out" uncharacteristic swings that may occur in any one year. The drawback of this approach is that it incorporates out-of-date information into the resource allocation process. Like many other formula design decisions, however, a judgment must be made between the desire for currency and the importance of promoting year-to-year funding stability.

A final option for improving substate funding stability is the use of a hold harmless provision. Since funding must respond in part to changing economic conditions, an artificial constraint such as a hold harmless could, however, be promoting stability at the expense of funding equity. As a result, this option should be considered after efforts have been made to promote stability by redesigning and restructuring the formula itself.

6.4 Summary of Findings

The issues assessed in this chapter were organized around three key problem areas with the JTPA allocation formula. With respect to improving the distributional equity of the existing formula, we found that significant gains could be made in two areas. The first was to increase the weight given to the ED factor in the overall formula. Such a change would have the effect of promoting equity by redistributing funds to areas that have comparatively large shares of the ED population.

We also found that distributional equity could be promoted through the adoption of the variable weight distribution process that would eliminate the repooling step in the current two-tier distribution method. It was noted that the one-tier direct allocation, in spite of its conceptual appeal, would likely entail implementation problems.

This chapter also examined a variety of issues associated with improving the measurement of the JTPA eligible population for allocation purposes. The first issue we examined was the importance of age limits on the ED factor used for Titles IIA and IIB. With respect to the former, it was fully acknowledged that the ED population 16-21 years of age would be the most conceptually appropriate factor. However, it was noted that this would likely preclude the use of any efforts to update the state-level estimates of the ED population. With respect to Title IIA, we felt that the definition of the current ED factor could be tightened by restricting it to the disadvantaged population over the age of 16.

Options for improving the ED measure also covered alternative data sources in an effort to address the concern over the currency of the decennial Census estimates. Our findings suggest that the March Work

Experience Supplement of the Current Population Survey (CPS) is a viable option for generating more recent state-level estimates of the ED population. In particular, we found that combining two or three years of CPS data will provide reliable state-level estimates. It should be noted that substate estimates must still rely on factor shares determined by the decennial estimates.

We also assessed the feasibility of statistically estimating state and substate ED counts through "small area estimation techniques." Although these options deserve further investigation, they will likely have limited face validity in the eyes of JTPA practitioners, which will seriously limit their credibility as a resource distribution option.

Finally, we reviewed a number of potential alternatives to the ED factor as a means of improving the conceptual clarity of the formula. Our review concluded that the economically disadvantaged factor, particularly as refined and updated through the CPS work experience supplement, most accurately embodies the objectives of the legislation and should become the focal point of the Title IIA and IIB formula.

Finally, this section reviewed several options designed to inject increased stability into the annual resource allocation process. The elimination of the two threshold-based excess and ASU unemployment measures in favor of a total unemployment measure appears to hold particular promise. In addition to its comparatively stable qualities, the measure is both simple and intuitively appealing. These features stand in contrast to the volatility and definitional complexity of the current unemployment-based figures.

Finally, we found that the use of extended reference periods for calculation of state and local factor shares can also effectively promote greater funding stability.

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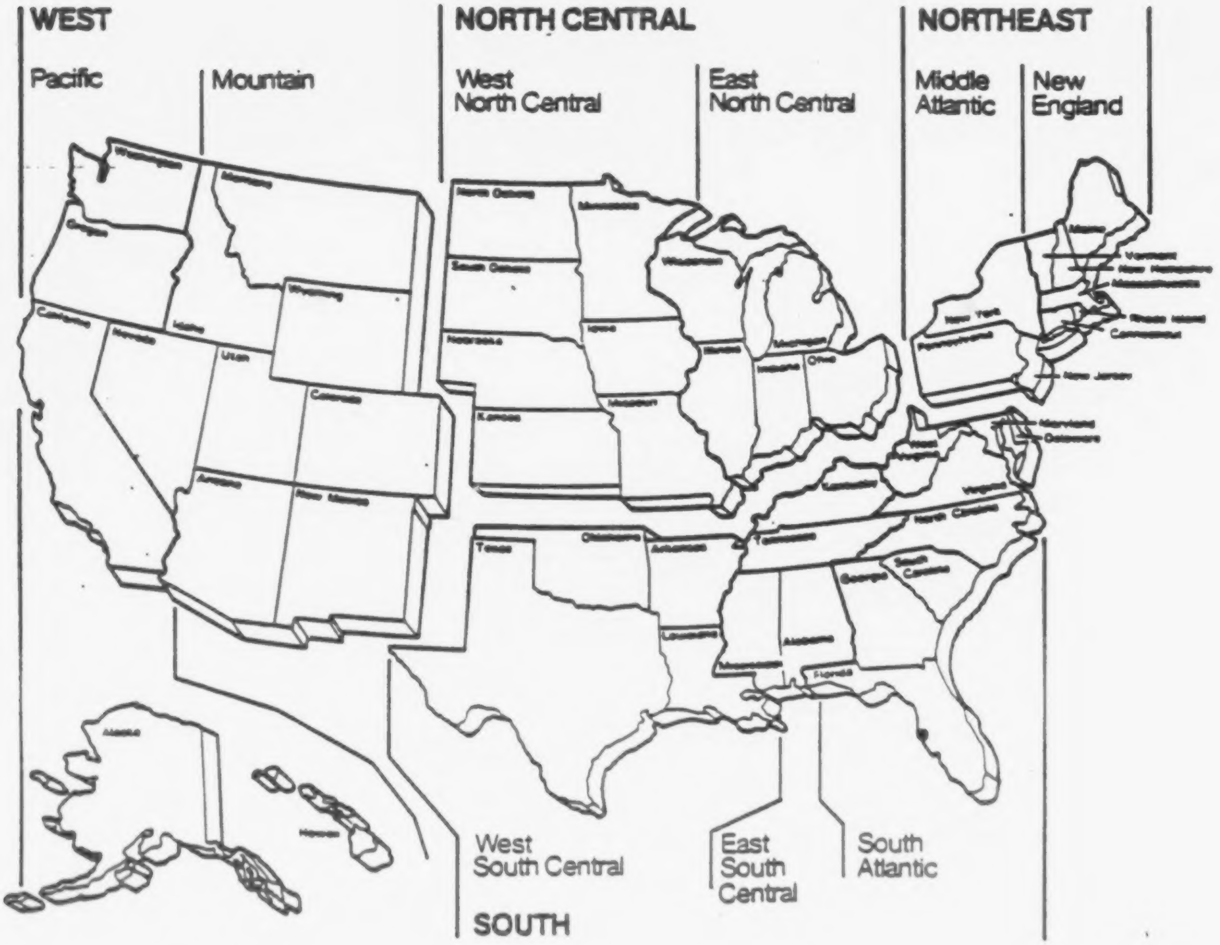
APPENDIX A

Exhibit A.1

Census Geographic Regions And Divisions of the United States



Source: 1980 Census of Population and Housing

Exhibit A.2

Partial Correlation of Key Factors Associated with Distribution of Title IIA Allocations, Controlling for Population

	ED Total	ED Youth	Eligibles (16 & Over)	Unemployed (Total)	Excess Unemployed	Unemployed in ASUs	PY85 IIA Allocation	PY84 IIA Allocation	Labor Force	Unemployment Rate	ED Rate
ED total	1.000	.949	.990	.303	.412	.389	.700	.600	-.529	.324	.677
ED youth		1.000	.942	.285	.366	.370	.587	.661	-.464	.261	.673
JTPA eligibles (16 and over)			1.000	.290	.396	.380	.683	.583	-.569	.304	.657
Unemployed (total)				1.000	.969	.812	.858	.844	-.255	.695	.310
Excess unemployed					1.000	.780	.903	.865	-.469	.724	.347
Unemployed in ASUs						1.000	.829	.796	-.287	.594	.284
PY85 IIA allocation							1.000	.946	-.522	.661	.528
PY84 IIA allocation								1.000	-.125	.620	.464
Labor force									1.000		
Unemp'oyment rate										1.000	.451
ED rate											1.000

Sources: USDOL estimates of the economically disadvantaged
NACO survey of SDA allocations

Exhibit A.3

Partial Correlation of Key Factors Associated with Distribution of Title IIB Allocations, Controlling for Population

	ED Total	ED Youth	Unemployed (Total)	Excess Unemployed	Unemployed in ASUs	PY84 IIB Formula	PY84 IIB Supplement	PY84 IIB Total	PY85 IIB Formula	PY85 IIB Supplement	PY85 IIB Total 85
ED Total	1.000	.949	.303	.412	.389	.656	.388	.661	.686	.285	.670
ED Youth		1.000	.285	.366	.370	.622	.364	.624	.646	.272	.633
Unemployed (total)			1.000	.969	.812	.747	.051	.519	.824	-.023	.603
Excess unemployed				1.000	.800	.783	.089	.565	.868	.003	.650
Unemployed in ASUs					1.000	.726	.082	.523	.786	-.003	.586
PY84 IIB Formula						1.000	.277	.819	.945	.236	.836
PY84 IIB Supplement							1.000	.778	.255	.964	.723
PY84 IIB Total								1.000	.770	.730	.978
PY85 IIB Formula									1.000	.166	.839
PY85 IIB Supplement										1.000	.676
PY85 IIB Total											1.000

Sources: USDOL estimates of the economically disadvantaged
NACO survey of SDA allocations
USDOL published allocations

Exhibit A.4

PY85 JTPA State Factor Share Data

STATE	SHR XS	SHR ASU	SHR ED
AL	0.030	0.023	0.022
AK	0.003	0.003	0.002
AZ	0.007	0.010	0.013
AR	0.011	0.010	0.013
CA	0.110	0.112	0.107
CO	0.004	0.009	0.011
CT	0.002	0.005	0.009
DE	0.002	0.002	0.002
DC	0.005	0.004	0.004
FL	0.031	0.039	0.042
GA	0.013	0.018	0.027
HI	0.002	0.003	0.005
ID	0.004	0.004	0.005
IL	0.069	0.060	0.041
IN	0.031	0.027	0.018
IA	0.009	0.011	0.010
KS	0.002	0.008	0.008
KY	0.022	0.019	0.020
LA	0.025	0.021	0.023
ME	0.004	0.005	0.005
MD	0.007	0.013	0.014
MA	0.009	0.016	0.021
MI	0.076	0.057	0.035
MN	0.012	0.016	0.014
MS	0.015	0.012	0.017
MO	0.022	0.022	[illegible]
MT	0.004	0.004	0.004
NE	.000	0.002	[illegible]
NV	0.004	0.004	[illegible]
NH	0.000	.000	[illegible]
NJ	0.021	0.023	[illegible]
NM	0.005	[illegible]	[illegible]
NY	0.057	0.058	0.061
NC	0.018	0.023	[illegible]
ND	0.001	0.001	[illegible]
OH	0.058	0.057	[illegible]
OK	0.012	0.013	0.011
OR	0.018	0.014	[illegible]
PA	0.068	0.055	0.045
PR	0.038	0.023	0.051
RI	0.003	0.004	0.004
SC	0.012	0.013	0.015
SD	.000	.000	0.004
TN	0.026	0.023	0.023
TX	0.042	0.057	0.052
UT	0.005	0.006	0.006
VT	0.001	0.001	0.002
VA	0.003	0.012	0.020
WA	0.027	0.023	0.016
WV	0.019	0.013	0.009
WI	0.022	0.022	0.016
WY	0.001	0.002	0.001
TOTALS	1.000	1.000	1.000

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Exhibit A.5

Algebraic Example of Repooling Under the Two-Tier Distribution Process

The general case can be described as follows. Tier one under this process entails the Secretary of Labor awarding the governor a Title IIA allotment based on the following allocation formula:

$$(1) \qquad T = \left(\frac{A_i}{\Sigma A} + \frac{B_i}{\Sigma B} + \frac{C_i}{\Sigma C}\right) * \frac{P}{3}$$

where:

T_i = Total Title IIA allotment in state i

A_i = Number of ED in state i

B_i = Number of excess unemployed in state i

C_i = Number of ASU unemployed in state i

P = Size of national Title IIA funding pool

Under the repooling process dictated by the two-tier process, we adopt the following formula to insure that SDA allocations are based on equal size pools.

$$(2) \qquad \left(\frac{A_i}{\Sigma A_i}(k_1) + \frac{B_i}{\Sigma B_i}(k_2) + \frac{C_i}{\Sigma C_i}(k_3)\right) * T = \text{Repooled state allotment}$$

When k_1, k_2, and k_3 are the "repooling factors" required to insure that SDA allocations are based on three equal pools.

Applying these factors insures that:

$$(3) \qquad \frac{A_i}{\Sigma A_i}(k_1) = \frac{B_i}{\Sigma B_i}(k_2) = \frac{C_i}{\Sigma C_i}(k_3)$$

These three shares are then used for distribution of SDA allocations. Focusing solely on the ED factor for illustration, we apply the SDA's share of the state ED total to the state factor share:

$$(4) \qquad \left(\frac{A_i}{\Sigma A_i}\right) x\ k_i\ x\ \frac{A_{SDA}}{A_i} = \text{SDA share of national ED factor pool}$$

Where A_{SDA} equals the number of ED in the SDA. Reordering the terms we see that:

$$(5) \qquad \left(\frac{A_i}{\Sigma A_i}\ x\ \frac{A_{SDA}}{A_i}\right)k_i = \text{SDA share of national ED factor pool}$$

Canceling to simplify:

(6) $\frac{A_{SDA}}{\Sigma A_i}(k_i)$ = SDA share of ED national factor pool using repooling process

Using the alternative in which an SDA's allocation is based directly on national totals, we directly calculate:

(7) $\frac{A_{SDA}}{\Sigma A_i}$ = SDA share of national ED factor pool

Comparing 6 and 7 we see that the only way in which an SDA's allocation under the repooling process can be equal to that allocated without repooling is if the k_i equals one. This holds true under all three formula factors, suggesting that the repooling process will artificially redistribute funds except when all three of the state formula factor shares are identical. That is, the state's share of the nation's ED, excess unemployment, and ASU unemployment must be equal (e.g., .03 percent of the nation for each factor) for no artificial redistribution to occur through the "repooling factors" (k_1, k_2, and k_3).

Exhibit A.6

Calculation of State "Repooling Factors" k_1, k_2, and k_3

		[illegible] REPOOL* FACTOR		[illegible] REPOOL* FACTOR		[illegible] REPOOL* FACTOR
STATE	[illegible]	K1	[illegible]	K2	[illegible]	K3
AL	23.18	1.44	40.38	0.83	30.44	1.10
AK	23.62	1.41	42.43	0.79	33.33	0.98
AZ	43.21	0.77	23.45	1.42	33.34	1.00
AR	37.88	0.88	32.09	1.04	30.03	1.11
CA	32.46	1.03	33.41	1.00	34.12	0.98
CO	45.46	0.73	16.61	2.01	37.94	0.88
CT	58.27	0.57	9.90	3.37	31.83	1.05
DE	35.36	0.94	27.49	1.21	37.16	0.90
DC	31.43	1.06	38.15	0.87	30.42	1.10
FL	37.77	0.88	27.44	1.21	34.79	0.96
GA	45.52	0.73	21.68	1.54	32.81	1.02
HI	53.37	0.62	17.07	1.95	29.57	1.13
ID	37.15	0.90	30.54	1.09	32.31	1.03
IL	24.16	1.38	40.72	0.82	35.12	0.95
IN	23.88	1.40	40.46	0.82	35.66	0.93
IA	32.82	1.02	29.85	1.12	37.33	0.89
KS	64.99	0.51	18.54	1.80	16.47	2.02
KY	32.68	1.02	36.25	0.92	31.07	1.07
LA	32.94	1.01	36.46	0.91	30.60	1.09
ME	38.27	0.87	29.17	1.14	32.56	1.02
MD	41.93	0.80	19.59	1.70	38.48	0.87
MA	45.77	0.73	19.66	1.70	34.57	0.96
MI	20.95	1.59	45.21	0.74	33.84	0.98
MN	33.54	0.99	27.97	1.19	38.49	0.87
MS	38.54	0.86	33.89	0.98	27.57	1.21
MO	30.99	1.08	34.69	0.96	34.32	0.97
MT	35.80	0.93	31.75	1.05	32.45	1.03
NE	68.21	0.49	5.61	5.94	26.18	1.27
NV	24.22	1.38	36.99	0.90	38.78	0.86
NH	89.53	0.37	0.00	ERR	10.37	3.21
NJ	33.76	0.99	28.32	1.18	37.89	0.88
NM	41.33	0.81	29.64	1.12	28.97	1.15
NY	39.74	0.84	27.91	1.19	32.35	1.03
NC	38.57	0.86	27.16	1.23	34.27	0.97
ND	59.70	0.56	12.53	2.66	27.77	1.20
OH	23.27	1.43	41.83	0.80	34.90	0.96
OK	33.53	0.99	31.58	1.06	34.89	0.96
OR	26.53	1.26	39.28	0.85	34.19	0.97
PA	26.40	1.26	39.46	0.84	34.14	0.98
PR	45.86	0.73	33.97	0.98	20.17	1.65
RI	35.56	0.94	28.27	1.18	36.17	0.92
SC	38.01	0.88	29.92	1.11	32.07	1.04
SD	84.15	0.40	4.31	7.73	11.54	2.89
TN	31.80	1.05	35.11	0.92	32.09	1.04
TX	38.36	0.87	26.00	1.28	35.64	0.94
UT	35.29	0.94	29.94	1.11	34.77	0.96
VT	46.13	0.72	22.97	1.45	30.90	1.08
VA	56.01	0.60	9.40	3.55	34.59	0.96
WA	23.83	1.40	41.42	0.80	34.74	0.96
WV	22.68	1.47	46.50	0.72	30.82	1.08
WI	26.07	1.28	36.80	0.91	37.13	0.90
WY	30.47	1.09	28.81	1.16	40.72	0.82

*A repooling factor in excess of 1.0 represents an expansion while a factor of less than 1.0 reflects reduction.

Exhibit A.7

Simulation of Allotment to States Using 1969 and 1979 Poverty Data

State	Share of 1969 Poor Adults	Factor Allotment (1969)	Share of 1979 Poor Adults *	Factor Allotment (1979)	Allotment Change ($)	Allotment Change (%)
AL	2.83%	$14,150,408	2.43%	$12,129,234	($2,021,174)	-14.28%
AK	0.10%	$510,436	0.15%	$729,375	$218,939	42.89%
AZ	0.85%	$4,253,630	1.20%	$6,024,096	$1,770,467	41.62%
AR	1.81%	$9,074,410	1.46%	$7,293,749	($1,780,661)	-19.62%
CA	7.51%	$37,573,730	9.08%	$45,383,327	$7,809,597	20.78%
CO	0.94%	$4,707,350	1.05%	$5,240,694	$533,343	11.33%
CT	0.76%	$3,799,909	0.81%	$4,052,083	$252,174	6.64%
DE	0.19%	$964,156	0.23%	$1,161,597	$197,441	20.48%
DC	0.41%	$2,041,742	0.41%	$2,026,041	($15,701)	-0.77%
FL	3.91%	$19,538,339	4.65%	$23,231,941	$3,693,602	18.90%
GA	3.02%	$15,114,564	2.93%	$14,641,526	($473,039)	-3.13%
HI	0.23%	$1,162,659	0.31%	$1,539,791	$377,133	32.44%
ID	0.33%	$1,673,094	0.40%	$1,999,028	$325,933	19.48%
IL	3.97%	$19,850,272	4.07%	$20,341,456	$491,183	2.47%
IN	1.84%	$9,187,840	1.77%	$8,833,540	($354,300)	-3.86%
IA	1.25%	$6,267,015	1.04%	$5,186,666	($1,080,349)	-17.24%
KS	1.06%	$5,302,858	0.86%	$4,295,208	($1,007,651)	-19.00%
KY	2.52%	$12,590,744	2.14%	$10,697,499	($1,893,246)	-15.04%
LA	2.95%	$14,774,274	2.47%	$12,372,359	($2,401,915)	-16.26%
ME	0.47%	$2,325,318	0.49%	$2,458,264	$132,946	5.72%
MD	1.30%	$6,522,232	1.42%	$7,077,638	$555,406	8.52%
MA	1.75%	$8,762,477	1.83%	$9,157,707	$395,230	4.51%
MI	2.92%	$14,604,129	3.16%	$15,803,123	$1,198,994	8.21%
MN	1.52%	$7,599,819	1.39%	$6,942,568	($657,250)	-8.65%
MS	2.39%	$11,938,521	1.85%	$9,265,763	($2,672,758)	-22.39%
MO	2.51%	$12,562,387	2.09%	$10,427,360	($2,135,027)	-17.00%
MT	0.33%	$1,673,094	0.33%	$1,674,861	$1,767	0.11%
NE	0.72%	$3,601,407	0.59%	$2,971,527	($629,879)	-17.49%
NV	0.16%	$794,011	0.26%	$1,296,666	$502,656	63.31%
NH	0.26%	$1,276,089	0.28%	$1,377,708	$101,619	7.96%
NJ	2.02%	$10,123,639	2.22%	$11,102,707	$979,068	9.67%
NM	0.68%	$3,402,904	0.73%	$3,646,874	$243,971	7.17%
NY	7.10%	$35,475,272	7.68%	$38,413,745	$2,938,472	8.28%
NC	3.33%	$16,645,871	2.92%	$14,614,512	($2,031,359)	-12.20%
ND	0.32%	$1,616,379	0.28%	$1,404,722	($211,657)	-13.09%
OH	3.80%	$18,999,546	3.72%	$18,585,553	($413,993)	-2.18%
OK	1.71%	$8,563,975	1.42%	$7,077,638	($1,486,337)	-17.36%
OR	0.91%	$4,565,563	1.02%	$5,105,624	$540,062	11.83%
PA	4.60%	$22,997,958	4.24%	$21,178,886	($1,819,072)	-7.91%
PR	5.13%	$25,663,566	6.18%	$30,903,885	$5,240,318	20.42%
RI	0.37%	$1,843,240	0.33%	$1,647,847	($195,393)	-10.60%
SC	1.84%	$9,187,840	1.65%	$8,239,235	($948,605)	-10.32%
SD	0.43%	$2,126,815	0.39%	$1,945,000	($181,815)	-8.55%
TN	2.91%	$14,547,414	2.56%	$12,777,568	($1,769,846)	-12.17%
TX	6.73%	$33,660,390	6.73%	$33,632,287	($28,103)	-0.08%
UT	0.41%	$2,070,100	0.49%	$2,458,264	$388,164	18.75%
VT	0.19%	$964,156	0.21%	$1,053,542	$89,385	9.27%
VA	2.31%	$11,569,873	2.13%	$10,670,485	($899,388)	-7.77%
WA	1.26%	$6,323,730	1.45%	$7,239,721	$915,992	14.48%
WV	1.36%	$6,805,808	1.00%	$4,997,569	($1,808,239)	-26.57%
WI	1.59%	$7,968,466	1.40%	$6,996,596	($971,870)	-12.20%
WY	0.14%	$680,581	0.14%	$675,347	($5,234)	-0.77%
TOTALS	(n.a.)	$500,000,000	(n.a.)	$500,000,000	(n.a.)	(n.a.)

Sources: 1969 Poverty data from 1972 City and County Data Book
(based on 1970 Census)
1979 Poverty data from 1980 Census of Population: General Social and Economic Characteristics, United States Summary (PHC 80-1-C1)

*Estimates include data for Puerto Rico and therefore are not identical to shares displayed in Exhibit A.8.

Exhibit A.8

Simulation of Allotment to States Using 1979 and 1984 Poverty Data

State	Share of 1979 Poor Adults *	Factor Allotment (1979)	Share of 1984 Poor Adults	Factor Allotment (1984)	Allotment Change ($)	Allotment Change (%)
AL	2.59%	$12,928,304	2.23%	$11,163,998	($1,764,306)	-13.65%
AK	0.16%	$777,426	0.14%	$689,670	($87,756)	-11.29%
AZ	1.28%	$6,420,962	1.62%	$8,102,466	$1,681,505	26.19%
AR	1.55%	$7,774,259	1.72%	$8,601,514	$827,256	10.64%
CA	9.67%	$48,373,164	9.64%	$48,217,333	($155,831)	-0.32%
CO	1.12%	$5,585,949	0.91%	$4,553,995	($1,031,954)	-18.47%
CT	0.86%	$4,319,033	0.69%	$3,445,592	($873,440)	-20.22%
DE	0.25%	$1,238,123	0.19%	$954,673	($283,450)	-22.89%
DC	0.43%	$2,159,516	0.41%	$2,030,499	($129,017)	-5.97%
FL	4.95%	$24,762,453	5.02%	$25,095,211	$332,757	1.34%
GA	3.12%	$15,606,104	2.97%	$14,853,973	($752,131)	-4.82%
HI	0.33%	$1,641,232	0.27%	$1,366,881	($274,351)	-16.72%
ID	0.43%	$2,130,723	0.48%	$2,378,734	$248,012	11.64%
IL	4.34%	$21,681,543	4.74%	$23,703,341	$2,021,798	9.32%
IN	1.88%	$9,415,491	2.15%	$10,731,117	$1,315,626	13.97%
IA	1.11%	$5,528,362	1.26%	$6,302,815	$774,454	14.01%
KS	0.92%	$4,578,174	0.82%	$4,087,551	($490,623)	-10.72%
KY	2.28%	$11,402,246	2.23%	$11,149,566	($252,680)	-2.22%
LA	2.64%	$13,187,446	2.51%	$12,551,337	($636,109)	-4.82%
ME	0.52%	$2,620,213	0.46%	$2,281,800	($338,413)	-12.92%
MD	1.51%	$7,543,910	1.19%	$5,974,065	($1,569,845)	-20.81%
MA	1.95%	$9,761,014	1.48%	$7,402,835	($2,358,179)	-24.16%
MI	3.37%	$16,844,227	4.10%	$20,481,270	$3,637,043	21.59%
MN	1.48%	$7,399,942	1.25%	$6,245,099	($1,154,844)	-15.61%
MS	1.98%	$9,876,188	1.85%	$9,252,636	($623,551)	-6.31%
MO	2.22%	$11,114,310	2.19%	$10,941,159	($173,152)	-1.56%
MT	0.36%	$1,785,200	0.35%	$1,730,556	($54,644)	-3.06%
NE	0.63%	$3,167,291	0.65%	$3,243,805	$76,515	2.42%
NV	0.28%	$1,382,090	0.29%	$1,460,776	$78,685	5.69%
NH	0.29%	$1,468,471	0.20%	$1,004,198	($464,273)	-31.62%
NJ	2.37%	$11,834,149	2.32%	$11,605,887	($228,262)	-1.93%
NM	0.78%	$3,887,129	0.80%	$3,986,635	$99,506	2.56%
NY	8.19%	$40,944,428	8.34%	$41,716,562	$772,134	1.89%
NC	3.12%	$15,577,311	2.84%	$14,200,150	($1,377,161)	-8.84%
ND	0.30%	$1,497,265	0.33%	$1,635,587	$138,322	9.24%
OH	3.96%	$19,809,963	4.06%	$20,308,875	$498,913	2.52%
OK	1.51%	$7,543,910	1.29%	$6,470,482	($1,073,429)	-14.23%
OR	1.09%	$5,441,981	1.11%	$5,568,683	$126,702	2.33%
PA	4.51%	$22,574,143	5.49%	$27,457,448	$4,883,305	21.63%
PR	*	*	*	*	*	*
RI	0.35%	$1,756,407	0.34%	$1,685,872	($70,534)	-4.02%
SC	1.76%	$8,782,033	1.57%	$7,858,862	($923,170)	-10.51%
SD	0.41%	$2,073,136	0.31%	$1,532,914	($540,222)	-26.06%
TN	2.72%	$13,619,349	2.48%	$12,422,781	($1,196,568)	-8.79%
TX	7.17%	$35,847,970	7.24%	$36,217,402	$369,432	1.03%
UT	0.52%	$2,620,213	0.54%	$2,675,575	$55,362	2.11%
VT	0.22%	$1,122,948	0.22%	$1,082,786	($40,163)	-3.58%
VA	2.27%	$11,373,452	1.80%	$8,987,448	($2,386,004)	-20.98%
WA	1.54%	$7,716,671	1.46%	$7,318,088	($398,584)	-5.17%
WV	1.07%	$5,326,807	1.19%	$5,934,413	$607,606	11.41%
WI	1.49%	$7,457,530	2.11%	$10,545,411	$3,087,882	41.41%
WY	0.14%	$719,839	0.16%	$789,671	$69,832	9.70%
TOTALS	(n.a.)	$500,000,000	(n.a.)	$500,000,000	(n.a.)	(n.a.)

Sources: 1979 Poverty Data from 1980 Census;
1984 Poverty Data from 1985 March CPS
Note: No data available for Puerto Rico from 1985 March CPS

*Estimates do not include data for Puerto Rico and therefore are not identical to shares displayed in Exhibit A.7.

Exhibit A.9

Distribution of Economically Disadvantaged Population With and Without Deductions for Child Support and Unemployment Insurance Income

	JTPA ELIG MOST INCLUS	SHARE	ED ALLOTMENT 300M POOL	JTPA ELIG LESS INCLUS	SHARE	ED ALLOTMENT 300M POOL	DIFF
New England	12562	1.77%	18830467	9795	1.50%	17510959	-1319508
Maine	1663	0.49%	2443481	1259	0.45%	2250771	-192710
New Hampshire	888	0.26%	1212824	606	0.22%	1083773	-129051
Vermont	707	0.21%	1035075	610	0.22%	1090524	55449
Massachusetts	6098	1.79%	8827709	4707	1.68%	8414914	-412795
Rhode Island	1233	0.36%	1805160	973	0.33%	1729476	-75684
Connecticut	2287	0.68%	3466818	1640	0.58%	2991901	-474917
Mid-Atlantic	54488	15.95%	78646640	44641	15.78%	77910837	-735803
New York	29495	8.34%	41715959	20854	8.17%	40857116	-862134
New Jersey	8515	2.49%	12466251	6539	2.34%	11690062	-776189
Pennsylvania	17381	5.09%	25461099	14746	5.27%	26365938	904839
East North Central	56898	16.66%	83215881	45809	16.38%	81804795	-1409786
Ohio	13693	4.01%	20047082	11065	3.95%	19781250	-265849
Indiana	6299	1.87%	9366384	5098	1.82%	9111982	-254462
Illinois	16157	4.73%	23634475	12534	4.62%	23102689	-531786
Michigan	13286	3.89%	19451220	10930	3.91%	19540049	88829
Wisconsin	7373	2.16%	10794359	5782	2.07%	10336740	-457619
West North Central	22029	6.45%	32265951	18547	6.63%	33157300	891349
Minnesota	4309	1.26%	6308543	3421	1.22%	6115874	-192669
Iowa	3955	1.16%	5790274	3303	1.18%	5904921	114647
Missouri	6908	2.02%	10112580	6177	2.21%	11047899	935319
North Dakota	1055	0.31%	1544561	886	0.32%	1583942	39381
South Dakota	1073	0.31%	1570914	800	0.29%	1430196	-140718
Nebraska	2010	0.59%	2942718	1739	0.62%	3108888	166170
Kansas	2729	0.80%	3995362	2221	0.79%	3970581	-24781
South Atlantic	53730	15.73%	78663734	43710	15.62%	78140319	-523415
Delaware	713	0.21%	1043860	528	0.15%	944330	-99530
Maryland	3891	1.14%	5696575	3035	1.09%	5425805	-270770
District of Colum	1339	0.39%	1960348	1085	0.39%	1941491	-18857
Virginia	5801	1.70%	8492889	4592	1.64%	8209323	-283566
West Virginia	3572	1.05%	5229547	2786	1.00%	4980657	-248890
North Carolina	8422	2.47%	12330135	6634	2.37%	11859898	-470237
South Carolina	4789	1.40%	7011282	4143	1.48%	7406626	395344
Georgia	8970	2.63%	13132428	7463	2.67%	13341938	209510
Florida	16235	4.75%	23768670	13443	4.81%	24032551	263881
East South Central	27214	7.97%	39842352	21776	7.79%	38929928	-912425
Kentucky	6674	1.95%	9770995	5219	1.87%	9330239	-440756
Tennessee	8173	2.39%	11965590	6283	2.25%	11232400	-733190
Alabama	7038	2.06%	10303905	5744	2.05%	10268805	-35100
Mississippi	5329	1.56%	7801863	4530	1.62%	8058483	256620
West South Central	38043	11.14%	55696429	32282	11.54%	57711973	2015544
Arkansas	4888	1.43%	7156222	3939	1.41%	7041966	-114256
Louisiana	7606	2.23%	11138407	6495	2.32%	11611402	472994
Oklahoma	3953	1.16%	5787345	3147	1.13%	5626032	-161313
Texas	21594	6.32%	31614454	18701	6.68%	33432613	1818159
Mountain	22086	6.47%	32334761	19232	6.88%	34381905	2047144
Montana	1846	0.54%	2702616	1619	0.58%	2894359	191743
Idaho	1949	0.57%	2853412	1766	0.63%	3157157	303745
Wyoming	802	0.23%	1174159	711	0.25%	1271086	96927
Colorado	4224	1.24%	6184100	3398	1.21%	6074756	-109344
New Mexico	3009	0.88%	4405293	2554	0.91%	4565900	160607
Arizona	6158	1.80%	9015551	5406	1.93%	9668123	652572
Utah	2326	0.68%	3405354	2105	0.75%	3764990	359636
Nevada	1772	0.52%	2594277	1670	0.60%	2985534	391257
Pacific	54235	15.88%	79402145	44290	15.87%	79357985	-44160
Washington	6886	2.02%	10081371	5866	2.10%	10486910	405539
Oregon	4221	1.24%	6179708	3773	1.35%	6755887	576179
California	40912	11.98%	59896756	32946	11.78%	58902611	-994145
Alaska	730	0.21%	1066749	561	0.20%	1002925	-63824
Hawaii	1486	0.44%	2175562	1236	0.44%	2209652	34091
United States	341521	100.00%		279842	100.00%		

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Exhibit A.10

Calculation of Coefficients of Variation, 1985 March Current Population Survey

STATE	I VALUE	1985 PERCENT BELOW POV LEVEL	F FACTOR	S.E. 1985	1985 CV	APPROX C.V. COMBINE 2 YRS
Alabama	2,962,047	16.90	1.57	2.68	0.16	0.13
Alaska	355,452	8.70	0.15	1.80	0.21	0.18
Arizona	2,314,070	15.70	1.13	2.49	0.16	0.14
Arkansas	1,752,118	22.00	0.74	2.64	0.12	0.10
California	19,477,765	11.10	1.27	0.79	0.07	0.06
Colorado	2,374,395	8.60	1.13	1.90	0.22	0.19
Connecticut	2,491,903	6.20	0.93	1.45	0.23	0.20
Delaware	475,632	9.00	0.22	1.91	0.21	0.18
D.C.	406,878	18.70	0.22	2.57	0.14	0.12
Florida	8,722,883	12.90	0.88	1.04	0.08	0.07
Georgia	4,353,215	15.30	1.57	2.12	0.14	0.12
Hawaii	766,125	8.00	0.34	1.77	0.22	0.19
Idaho	711,072	15.00	0.30	2.28	0.15	0.13
Illinois	8,571,302	12.40	0.99	1.10	0.09	0.08
Indiana	4,148,068	11.60	1.19	1.68	0.15	0.12
Iowa	2,173,953	13.00	0.90	2.12	0.16	0.14
Kansas	1,796,892	10.20	0.72	1.88	0.18	0.16
Kentucky	2,762,093	18.10	1.21	2.50	0.14	0.12
Louisana	3,179,623	17.70	1.30	2.39	0.14	0.12
Maine	882,020	11.60	0.38	2.06	0.18	0.15
Maryland	3,348,412	8.00	1.02	1.47	0.18	0.16
Massachusetts	4,610,250	7.20	0.51	0.84	0.12	0.10
Michigan	6,802,711	13.50	0.78	1.14	0.08	0.07
Minnesota	3,111,399	9.00	1.26	1.79	0.20	0.17
Mississippi	1,852,121	22.40	0.77	2.64	0.12	0.10
Missouri	3,773,800	13.00	1.19	1.85	0.14	0.12
Montana	606,226	12.80	0.25	2.11	0.16	0.14
Nebraska	1,202,066	12.10	0.46	1.98	0.16	0.14
Nevada	704,303	9.30	0.40	2.15	0.23	0.20
New Hampshire	750,459	6.00	0.40	1.70	0.28	0.24
New Jersey	5,913,636	8.80	0.63	0.91	0.10	0.09
New Mexico	1,033,283	17.30	0.42	2.37	0.14	0.12
New York	13,653,590	13.70	0.83	0.83	0.06	0.05
North Carolina	4,647,627	13.70	0.53	1.14	0.08	0.07
North Dakota	498,902	14.70	0.18	2.09	0.14	0.12
Ohio	8,130,678	11.20	0.89	1.02	0.09	0.08
Oklahoma	2,417,766	12.00	0.88	1.92	0.16	0.14
Oregon	2,030,048	12.30	1.04	2.31	0.19	0.16
Pennsylvania	9,256,940	13.30	0.94	1.06	0.08	0.07
Rhode Island	748,449	10.10	0.37	2.08	0.21	0.18
South Carolina	2,430,248	14.50	0.91	2.11	0.15	0.12
South Dakota	516,803	13.30	0.18	1.97	0.15	0.13
Tennessee	3,617,071	15.40	1.47	2.26	0.15	0.12
Texas	11,517,470	14.10	1.30	1.15	0.08	0.07
Utah	1,090,645	11.00	0.50	2.08	0.19	0.16
Vermont	401,251	12.10	0.20	2.26	0.19	0.16
Virginia	4,287,138	9.40	1.53	1.71	0.18	0.15
Washington	3,281,380	10.00	1.50	1.99	0.20	0.17
West Virginia	1,470,138	18.10	0.61	2.43	0.13	0.11
Wisconsin	3,582,189	13.20	1.43	2.10	0.16	0.14
Wyoming	361,309	9.80	0.19	2.12	0.22	0.18
United States	178,406,814					

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APPENDIX B

COMPARATIVE REVIEW OF FORMULAS USED TO ALLOCATE EMPLOYMENT AND TRAINING FUNDS

Having reviewed the basic criteria that can be used to assess allocation formulas, we now turn to a critical discussion of formulas used to distribute funds under employment and training and related programs. The specific formulas addressed in this section are contained in the following pieces of legislation:

1. Emergency Employment Act of 1971
2. Comprehensive Employment and Training Act of 1973, Title I
3. Comprehensive Employment and Training Act of 1973, Title II
4. Comprehensive Employment and Training Act, Title VI (as specified in 1974 and 1976 amendments)
5. Comprehensive Employment and Training Act, Title Act Amendments of 1978, Title IIA/B/C
6. Comprehensive Employment and Training Act Amendments of 1978, Title IID
7. Comprehensive Employment and Training Act Amendments of 1978, Title VI
8. Vocational Education Act of 1963, as amended in 1976
9. Carl Perkins Vocational Education Act of 1984
10. Wagner-Peyser Act Amendments of 1982

For the purposes of this section, the formula grants under analysis have been divided into two categories: employability programs and public service employment programs. The employability programs are those that address the supply side of the labor market, seeking to promote the unsubsidized employment of participants through classroom training, on-the-job training, job counseling, job banks, and similar activities. This category includes Title I of the original CETA, Title II/A/B/C of the 1978 CETA amendments, both vocational education laws, all of JTPA, and the Wagner-Peyser Act amendments. The other five grants fund public service employment programs, which address insufficient demand in the labor market; they will be discussed separately because their goals differ significantly from the employability programs.

The programs and formulas discussed in this chapter are summarized in Exhibits B.1 and B.2. Employability programs are compared in Exhibit B.1, and public service employment programs are compared in Exhibit B.2. In these tables, the goals of the programs are summarized, together with the formula factors, weights, structure, constraints, and eligibility criteria.

Formulas for Employability Programs

Employability programs share a common focus on enhancing the client population's economic status by improving their access to and in the job market. This general goal can be accomplished through skill training, job counseling, or placement activities. The vocational education system focuses on skill training, while the Wagner-Peyser Act funds state employment services to provide counseling and placement. JTPA and the CETA employability titles combine all of these activities in a comprehensive system of services targeted to the economically disadvantaged and other groups in need.

CETA of 1973: Title I Formula

Title I of the 1973 CETA was created to consolidate a variety of categorical employment and training programs into a decentralized, comprehensive system of services for the unemployed, underemployed and economically disadvantaged. While public service employment was included in the list of permitted activities, the emphasis of Title I was on employability services, primarily classroom and on-the-job training.

The Title I formula was shaped by the goal of the program to decategorize the federal employment and training grant system and serve both the economically disadvantaged and the cyclically unemployed. In spite of this decentralization, allocations were distributed directly from the federal level to the prime sponsor level.

The largest factor in the formula was the state's past funding level, which received a weight of 50 percent. The use of this factor was intended to prevent drastic changes in funding for the areas which had been active in the categorical programs consolidated under CETA. The other two factors were the number of unemployed (37.5 percent) and the number of adults in low-income families (12.5 percent).

Exhibit B.1

Goals, Funding Formulas, and Eligibility Rules for Employability Grant Programs

Program	CETA TITLE I (1973 Law)	CETA TITLES IIA, IIB, IIC (1978 Amendments)	WAGNER-PEYSER ACT (As Amended by JTPA)	VOCATIONAL EDUCATION ACT OF 1963 (with 1976 Amendments)	CARL PERKINS VOCATIONAL EDUCATION ACT OF 1984
GOALS:	Improve employability of unemployed, under-employed, and economically disadvantaged through employment and training services.	Improve employability of economically disadvantaged (unemployed or underemployed) through training, upgrading, and retraining (IIC).	Operation of public employment service for job information and placement.	Build skilled labor force through vocational education programs that address skill mismatches and barriers to employment; federal funds support state vocational education systems.	Enhance skills of labor force through quality vocational education using modern industrial technology; assist special groups in overcoming barriers to employment.
FUNDING FORMULA:					
UNEMPLOYMENT	37.5%: Share of U.S. unemployed.	25%: Share of U.S. unemployed. 33.3%: Share of unemployed in ASUs.**	1/3: Share of U.S. unemployed.	-	-
INCOME	12.5%: Share of adults in families with income below low income level in U.S. ($7,000 in 1969 dollars).	8.3%: Share of adults in families with income below low income level in U.S. ($7,000 in 1969 dollars).	-	(Separate funding for special program for disadvantaged).	-
PAST FUNDING	50%: Share of last FY funds; minimum allocation 90% of last FY funds, gaps filled with discretionary funds; maximum 150% of last FY funds.	33.3%: Title IIA,B,C funds for previous FY; minimum allocation 90% of last FY funds, gaps filled with discretionary funds.	90% of last FY share, balanced with discretionary funds.	-	-
OTHER	Allocation to approved prime sponsors within state by DOL using same formula.	-	2/3: Share of U.S. civilian labor force; minimum .28% of U.S. total for each state.	50%: Share of 15-19 year olds × AR*. 20%: Share of 20-24 year olds × AR. 15%: Share of 25-65 year olds × AR. 15%: Above allotments × AR over all allotments × AR.	Essentially same as for Vocational Education Act.
ELIGIBILITY FOR SERVICES:	Unemployed (1+ weeks) or disadvantaged (family income below 70% of LLSIL or poverty***).	Economically disadvantaged (family income below 70% of LLSIL or poverty) and unemployed, underemployed, or in school.	-	-	57% to be spent by states as costs of special services to handicapped, disadvantaged, adults, single parents/homemakers, anti-sex bias programs, incarcerated offenders (otherwise no eligibility requirements).

*AR = Allotment Ratio = $1 - (.5 \times \frac{\text{per capita income}}{\text{per capita income}_{us}})$, $.4 \leq AR \leq .6$

**ASUs = Areas of Substantial Unemployment, defined generally as above 10,000 population with over 6.5% unemployment.

***LLSIL = Lower Living Standard Income Level, as set for state by Bureau of Labor Statistics

Exhibit B.2

Goals, Funding Formulas, and Eligibility Rules for Public Service Employment Programs

Program	EMERGENCY EMPLOYMENT ACT (EEA) OF 1971	CETA TITLE II (1973 Law)	CETA TITLE VI (1974/1976 Amendments)	CETA TITLE IID (1978 Amendments)	CETA TITLE VI (1978 Amendments)
GOALS:	Countercyclical program of transitional, temporary public service jobs for the unemployed; provide public services for areas affected by recession.	Transitional public service employment for unemployed and underemployed residents of areas of substantial unemployment; provide public services to depressed areas.	Emergency countercyclical program of public service employment for the unemployed.	Public service employment for structurally unemployed, economically disadvantaged.	Temporary public service employment for low income, cyclically unemployed.
FUNDING FORMULA:					
UNEMPLOYMENT	50%: Share of U.S. unemployed. 50%: Share of U.S. excess (over 4.5%) unemployed. Separate fund for ASUs* (Section G).	100%: Share of all unemployed in ASUs.*	50%: Share of total U.S. unemployed. 25%: Share of unemployed in ASUs.* 25%: Share of excess unemployed (over 4.5%).	25%: Share of U.S. unemployed. 25%: Share of excess unemployed. 25%: Share of unemployed in ASUs.*	50%: Share of U.S. unemployed. 25%: Share of excess unemployed. 25%: Share of unemployed in ASUs.*
INCOME	-	-	-	25%: Share of adults in low-income families.	-
PAST FUNDING	-	-	-	-	-
OTHER	10% match required; $1.5 million minimum state allocation. Substate allocation: mandatory pass-through to large cities and counties, proportional to share of public jobs in state; balance of state discretionary.	Allocation directly to prime sponsors and eligible Indian tribes; jurisdiction must contain ASU.*	Allocation directly to prime sponsors.	Allocation directly to prime sponsors. Set-aside funds used to reduce funds lost due to change in formula data base.	Allocation directly to prime sponsors. Set-aside funds used to replace funds lost due to change in formula data base.
ELIGIBILITY FOR JOBS	Unemployed. Priority groups: Vietnam veterans, youths entering labor force, older workers, migrants, welfare recipients, limited English speakers, displaced scientists and engineers. For Section 6 jobs, must be ASU resident.	Unemployed or disadvantaged and underemployed; ASU resident. Equitable treatment of significant segments of unemployed required. (Disadvantaged defined as family income below 70% LLSIL** or poverty level.)	Economicaly disadvantaged (family income below 70% LLSIL or poverty), UI exhaustee, or AFDC household member (1976 Amendment).	Welfare/disadvantaged (70% LLSIL/poverty) and unemployed 15 out of last 20 weeks.	Welfare/100% LLSIL and unemployed 10 of last 12 weeks.

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*ASU = Area of Substantial Unemployment, generally defined as 10,000 or more population, unemployment of 6.5% or more (6% under EEA).
**LLSIL - Lower Living Standard Income Level, as set by Bureau of Labor Statistics.

One major issue raised about this formula was its emphasis on unemployment. Analysts pointed out that while the programs funded by Title I were targeted to the structurally unemployed and particularly the disadvantaged, the formula gave nearly 38 percent weight to total unemployment (including cyclical and frictional unemployment) and little weight to the economically disadvantaged (Coltrane et al., 1978). Thus, the limited portion of the funds that were flexible were diffused widely, rather than focused on the areas where the need for Title I services was necessarily greatest. An added problem was that the definition of unemployment used for the official statistics excluded groups that Title I was concerned with, including discouraged workers and involuntary part-time workers (although these groups would be represented in part among the low-income adults).

The low-income adult measure used in the formula was also criticized on a conceptual level. This measure was defined to include the number of adults in families with incomes below a national single income standard (set at the Bureau of Labor Statistics low income level for a family of four in 1969 and subsequently inflated each year.). This standard was criticized because it did not account for differences in family size or in the cost of living between farm and non-farm families and among regions (Coltrane et al., 1978). Thus, this factor favored rural areas and the south, where the cost of living was low. However, the cumulative effect of the formula actually reduced the share of funds going to southern states, because of the relatively low weight on poverty in comparison to the pre-CETA allocations.

In addition to the use of past funding as the largest factor in the formula, the emphasis on stability of funding in Title I is apparent from the constraints on year-to-year change in funding. States were guaranteed at least 90 percent of the previous year's funding level, and a discretionary fund was set aside to bring their allocations up to this level. This provision was especially helpful to the core cities that had received large shares of pre-CETA funds, but these cities still experienced a loss in their share of employment and training funds (relative to counties and other types of prime sponsors) and many had absolute losses of funds (Mirengoff and Rindler, 1978). Extreme gains in funding were also limited by a cap of 150 percent of the past year's funding, but only a few areas were affected by this limit.

In addition to the conceptual problems with the formula factors, there were data problems as well. The unemployment statistics at the local level were criticized for a number of compromises necessitated by the lack of an appropriate survey frequent enough and on a large enough scale to provide reliable estimates of the unemployment for areas as small as a prime sponsor's jurisdiction. The method relied on the combination of unemployment insurance records, Current Population Survey (CPS) data, and additional adjustment factors derived from Census data. (See Section 6.4 for a discussion of these issues.) The small size of the CPS meant that it could not be used as a benchmark for all states; furthermore, differences between CPS estimates and UI-based estimates were great, resulting in large changes in the final unemployment statistics used for allocation purposes.

Relying on the Census for converting the employer-based UI data into residence-based data and other adjustments made the allocations subject to error because of the obsolescence of Census data. An additional problem was the undercount of minorities by the Census, which affected both the CPS and the adjustment of UI data. One research team conducting an independent survey to validate the CPS found that errors in the CPS sampling frame due to the obsolescence of the Census data used to set it up led to a substantial understatement of unemployment in St. Louis, costing the city millions of dollars in CETA funds (Jones and Phares, 1978).

For updating the low-income adult count, the Labor Department was forced to develop its own data base since there was no ongoing family income series at the state or local level. The method used the CPS to update the state shares of low-income adults from the 1970 Census; as noted above, CPS estimates had a substantial amount of error for many states. At the prime sponsor level, the CPS counts for the state were disaggregated using the Census, thus making these allocations subject to unknown biases because of change in the low-income population. The Survey of Income and Education, conducted in 1975, was used to provide more accurate counts at the state level for the 1978 fiscal year, although some critics found faults in the methodology of the SIE (Dilger, 1982).

The annual updating of the Title I shares was also criticized on a more fundamental level. Several analysts pointed out that the structural employment problems which were the primary focus of Title I did not change radically from year to year. Under this assumption, it would be preferable to hold shares of funds stable for two years or more. This procedure, it was argued, would be both more consistent with the nature of the problem and more beneficial to prime sponsors seeking a stable level of funding to develop quality programs (Mirengoff and Rindler, 1978; Coltrane et al., 1978; Taggart, 1981).

A final issue with the Title I formula was that the Labor Department used it as the formula for allocating funds under Title III of CETA for summer youth programs. Critics argued that the distribution of funds was far out of line with the need because the formula did not reflect numbers of unemployed or disadvantaged youth (Coltrane et al., 1978).

CETA Title IIA/B/C, 1978 Amendments

When CETA was reauthorized and amended in 1978, the activities funded under the old Title I were continued and modified under Parts A, B, and C of the new Title II. Title IIA contained provisions pertaining to allocation of funds for employability services, while Title IIB specified the employability services to be provided to the disadvantaged. Unlike the old Title I, under the new Title IIB prime sponsors could only provide employability services to economically disadvantaged persons who were unemployed or under-employed; this was part of the general emphasis of the 1978 amendments to target CETA on the disadvantaged. A "window" was provided to permit some services to those who did not meet the income standard: up to 6 percent of funds could be spent on "upgrading" or retraining activities authorized under Title IIC, for which there were no income requirements. Another change in Title IIA/B/C was that the funds could not be used for public service employment; that activity was to be more clearly separated from supply-side interventions.

The formula laid out in Title IIA of the 1978 CETA included all of the factors in the old Title I, plus a new factor: the number of unemployed persons in areas of substantial unemployment (ASUs), defined as areas with an unemployment rate of 6.5 percent or more. This factor was used previously in the formulas for public service employment; it was intended to target funds to areas of concentrated need. The ASU factor was given 1/3 weight, as was past funding; the weight on total unemployment was reduced to 25 percent, while the weight on low-income adults was reduced to only 8.3 percent.

Another significant change in the allocation of CETA employability funds was that instead of allocating first to the states and reapplying the formula to the prime sponsors within each state, allocations were made directly to prime sponsors. This provision sought to ensure equitable distribution across all prime sponsors, not just across states and within states. As the discussion of two-level allocation in JTPA shows (see Section 4.2), formulas that allocate to states first and local areas second make each area's allocation subject to conditions in other parts of the state.

The 1978 amendments also changed the provisions for protecting against rapid change in allocations. The 90 percent hold-harmless feature was retained, but the 150 percent limit on increases in shares was eliminated. A new element of protection was introduced: set-aside funds were targeted to aid cities that lost funds as a result of the Department of Labor's decision to cease using the CPS directly to estimate unemployment in those areas for which the CPS sample was sufficient.

The Title IIA/B/C formula was subject to the same basic criticism as the old Title I formula; that is, the factors used were not clearly or closely related to the structural employment problems which the grant was meant to address. While the introduction of the ASU factor would seem to make the formula more targeted to areas of structural unemployment, that factor was a weak indicator since so many areas qualified (in 1976, 92 percent of the unemployed were in ASUs) (Coltrane et al., 1978). The real result of the changes was to make the allocations more responsive to changes in unemployment (and thus less stable), since the weight on past funding was reduced and the weight on unemployment was increased to over half (counting the ASU and total unemployment factors). This change heightened the discrepancy between the eligibility criteria and the formula; while the old Title I had included all unemployed as eligible, the new Title IIB was supposed to target the disadvantaged. The new formula also lacked a factor to target areas of need for Title IIC services.

The new Title IIA/B/C also failed to change some of the old problems of Title I. The data sources used for unemployment and low-income adults remained the same, with the same problems. The IIA/B/C formula continued to use a definition of ASUs that was based on a 3-month period and thus subject to seasonality, even though the PSE formulas used a 12-month baseline period under the 1978 amendments. The summer youth formula was put into the law (instead of being at the Labor Department's discretion), but the old Title I formula was used, with a hold-harmless feature such that each sponsor's allocation plus unspent funds would equal the last year's funds. Thus, the youth formula still did not reflect the concentrations of unemployed poor youth. Finally, the allocation was still calculated on an annual basis; the instability this produced was increased by the greater emphasis on fluctuating unemployment rates.

Vocational Education Act: 1976 Formula

The Vocational Education Act of 1963, as amended in 1976, provided federal support for the system of public vocational education at the secondary and post-secondary levels. (The Vocational Education Act was amended again in 1984, by the Carl Perkins Vocational Education Act.) This system has always operated parallel to the employment and training system, but with a broader mission and less restricted target group. A critical difference between the "voc-ed" system and the CETA/JTPA system is that while the latter is wholly federally funded, the former has always been a federal-state partnership in which federal funds are considered supplementary to the basic responsibility of the states and localities. Thus, while the voc-ed system as a whole is not targeted, the federal funds have been since the 1976 amendments.

As Exhibit B.1 shows, the Vocational Education Act (VEA) formula in the 1976 amendments incorporated population and income factors in an additive structure. The total appropriation was divided into four parts; each part was allocated according to relative shares of different population age groups served by the vocational education system, with an adjustment (the "allotment ratio") so that low-income states received more and high-income states received less. (The definition of the allotment ratio is shown in Exhibit B.1.) The formula placed substantial weight on youth (the 15-19 year old group), thus favoring states with large flows of immigrant youth or large minority populations (which tend to be younger) (NIE, 1981). The allotment ratio was intended to adjust for the relative ability of the state to pay for vocational education itself.

Analysis of the allocations of VEA funds, presented in a National Institute of Education study (NIE, 1981), has shown that the allotment ratio was the formula's most influential factor in determining allocations. Critics have asserted that it is too powerful for a factor with questionable validity. Relative income level was seen as an imperfect proxy for fiscal capacity, both because there were other revenue sources available to states besides residents' incomes, and because the cost of education tended to be lower where incomes are lower. Thus, the states with the most VEA dollars had the lowest teacher salaries and the lowest tax burdens. Since these areas tended to be rural and southern, the problem was one of interregional equity. The NIE study suggested that the formula should reflect actual enrollments and/or actual expenditures for vocational education by the state and local authorities.

An even more problematical facet of the VEA formula was the provision for substate allocations. In keeping with the VEA philosophy of state autonomy, states were permitted to devise their own allocation formulas for allocation to local education authorities (LEA's) and other entities eligible for VEA funds. The law required that the formula emphasize four factors: relative financial ability of districts, concentrations of low-income families, high-unemployment areas, and programs for new and emerging occupations. States added additional factors such as dropout rates, program quality or effectiveness, sex equity in programs, and counts of special populations identified for set-asides in the act (e.g., handicapped and disadvantaged).

This approach to substate allocation produced a number of problems. First, states combined factors without any understanding of their potential interactions. For this and other reasons, a study of allocations in 12 states found no significant independent effect for any of the four mandatory factors in most of the states (cited in NIE, 1981). States often were confronted with substantial data problems, since items such as income, employment, and tax base were not uniformly available at the school district level. In the case of "new and emerging occupations," the definition was so loose that states felt it would be too easily manipulated by districts to their own advantage. There was some evidence that the 1976 amendments had increased the equity of allocation: the stricter requirements for substate allocation were generally associated with increases in the funds per pupil for rural areas and small cities.

Carl Perkins Vocational Education Act of 1984

The principal change in the allocation of federal vocational education funds brought about by the Carl Perkins Vocational Education Act of 1984 is in the targeting of funds within each state. The state allocation is divided into two pools: 57 percent for Title IIA of the Act and 43 percent for Title IIB. Title IIA, the larger pool, must be spent on the additional cost of services (above the average per pupil cost) to target groups, including the handicapped, disadvantaged, adults, single parents/homemakers, participants in anti-sex bias programs, and incarcerated offenders. The proportion of the Title IIA funds for each of these groups is fixed. The state is required to distribute 80 percent of Title IIA funds to eligible recipients, except for the handicapped and disadvantaged funds, of which 100 percent must be distributed according to mandatory formulas.

Title IIB, the smaller pool, can be used for a variety of needs, including new programs, updating equipment, and other improvements. Allocation of Title IIB funds within state is discretionary. In general, the thrust of these changes is to increase the emphasis on the supplementary role of federal funds in the vocational education system, and to deal with the problems associated with the previous rules for substate allocation under the 1976 VEA amendments.

Wagner-Peyser Act Formula (1982 Amendments)

The Wagner-Peyser Act is the enabling legislation for the federal-state Employment Service (ES) system, which provides a free labor exchange, and carries out a variety of special tasks (such as administering work tests for entitlement programs). Until the Act was amended by provisions of JTPA in 1982, the allocation of funds for the ES was at the administrative discretion of the Labor Department. A variety of formula factors were used over the years, including relative workload, labor force, unemployment, and performance. The formulas used in the late 1970's and early 1980's emphasized placement rates as an important factor. These formulas were blamed for the difficulties in coordinating information between the ES and the CETA system and for an apparent tendency of the ES to "cream," i.e., to focus services on those most likely to succeed in getting jobs, even though they might be those least in need of help (Fairchild, 1980). The formulas were also seen as too complex, requiring a large number of data points and calculations.

The 1982 amendments thus represented a significant break with the recent past for two important reasons. First, the amendments placed the formula into law for the first time, greatly restricting the leverage of the Department of Labor in influencing the distribution of funds. Second, the formula is solely need-based: the two factors are the size of the state civilian labor force (2/3 weight) and the number of unemployed (1/3 weight). Thus, the formula emphasizes the basic labor exchange mission of the ES over any targeting to the unemployed or the disadvantaged. The only role for performance is the set-aside of 10 percent of the funds at the state level for performance incentives for local offices. Other significant features of the formula are a minimum allocation for each state (.28 percent of the total appropriation) and a 90 percent hold-harmless provision funded through a set-aside.

Public Service Employment Grant Formulas

Grants for public service employment programs (PSE) are likely to require different formulas than employability programs because PSE addresses employment problems through the demand side rather than the supply side. Thus, formulas might seek to target areas with especially rapid change in employment (cyclically sensitive) or chronic shortages of jobs. While JTPA does not permit public service employment, the formulas for the Emergency Employment Act of 1971 and the CETA PSE programs provide additional examples of solutions to the problem of allocating employment and training funds.

Emergency Employment Act of 1971 Formula

The Emergency Employment Act of 1971 was an important predecessor of CETA, in that it was the first truly decentralized employment and training program. Unlike the other pre-CETA programs, it had a legislatively mandated formula, including provisions for mandatory pass-through of funds from the states to large cities and counties. The program sponsors were also given considerable latitude in spending the funds. The purpose of the program was to provide transitional, temporary employment opportunities in the wake of the post-Vietnam War recession and to provide public services to areas affected by the recession.

The formula allocated funds to the states on the basis of unemployment. While Congress had intended total unemployment to be the sole factor, the Department of Labor devised a formula combining total unemployment with "excess" unemployment (the number of unemployed over 4.5 percent of the labor force). The Labor Department's view was that the law's mandate for "equitable" distribution according to unemployment required some attention to areas where unemployment was concentrated. In addition to the basic formula allocation, there was a separate fund for areas of substantial unemployment (over 6 percent). The program required a 10 percent match and provided a minimum state allocation of $1.5 million.

Analysts who monitored the allocation of EEA funds within the states found that despite the minimal guidance given to the states, the allocation of funds to localities was generally fair. The states only kept the share allotted to them by law, based on the ratio of state to local government jobs, and passed through the "balance-of-state" funds under their control (funds not earmarked for large cities and counties entitled to be sponsors) to small cities and counties (Levitan and Taggart, 1974). Cities and counties were less willing to distribute funds to smaller, specialized entities within their jurisdiction (e.g. park districts). The funds allocated on the basis of areas of substantial unemployment (ASUs) were generally targeted to hire residents of high unemployment areas, but these residents tended to be given lower paying jobs.

At the time the EEA was implemented, there was no uniform federally published set of data on unemployment at the local level, as required by the formula. The smallest unit available was the labor market area. As a result, the Department of Labor had to rely on state Employment Security Agencies to provide unemployment data, leaving the allocations open to random error and bias.

CETA of 1973: Title II Formula

The 1973 CETA contained only one PSE program: Title II, a program of transitional public employment for the structurally unemployed. It was essentially a continuation of the portion of the EEA targeted to areas of substantial unemployment, since only ASUs were eligible for funds and participants had to be unemployed or low-income residents of an ASU. Like the EEA set-aside, Title II allocation was based on the number of unemployed in ASUs, although the ASU definition was changed to an unemployment rate of 6.5 percent.

The critical issue concerning this formula was the efficacy of the ASU factor in targeting funds to the areas with serious structural unemployment problems. As noted before, the fixed nature of the cutoff meant that in periods of high unemployment nationwide, most if not all areas would qualify. Thus, Title II funds were widely diffused. The problem of targeting was exacerbated by the limitations of the local unemployment data available.

CETA Title VI Formula (1974 and 1976 Amendments)

CETA was amended in 1974 to add an emergency public jobs program, Title VI, to respond to worsening economic conditions. In contrast to Title II, Title VI was purely countercyclical in its mission. All prime sponsors were eligible for funds under Title VI, and anyone who was unemployed or disadvantaged, regardless of residence, was eligible for a job. Title VI was supposed to be temporary; it would be phased out as unemployment dropped. Title VI was amended in 1976; one of the key changes was that all participants had to be economically disadvantaged and either long-term unemployed, UI exhaustees, or AFDC recipients.

The Title VI formula had three factors, all related to unemployment. Half of the funds were allocated on the basis of total unemployment; one fourth on the basis of the unemployed in ASUs, and one fourth on the basis of the number of excess unemployed (as in the EEA base formula). This final factor made the Title VI formula more effective at targeting funds to high-unemployment areas than the Title II formula--a somewhat paradoxical result, since Title VI had the broader mission.

One of the major issues raised with respect to Title VI was the instability of funding. In large part, this was due to the rapid increase of the national appropriation. The Title VI funds rose from $605 million in 1974 to $2.3 billion in 1977 (Mirengoff and Rindler, 1978). However, analysts have argued that the annual calculation of shares based on unemployment factors subject to volatile shifts increased the volatility of funding (Taggart, 1981). On the other hand, it can be argued that a countercyclical program of this nature must be responsive to changes in need on an annual basis, and that the problem was only one of the timing of allocation information being too late to permit adequate planning.

Another criticism of the Title VI formula is that it was inconsistent with the eligibility criteria, especially as altered by the 1976 amendments (Coltrane et al., 1978). While the formula combined structural, cyclical and seasonal factors, the eligibility rule was basically targeting the program to the structurally unemployed. This inconsistency seems to have been the result of a compromise between keeping the formula the same to avoid funding shifts and political conflict, and correcting the abuses of the program by requiring that participants be disadvantaged.

CETA Title IID Formula (1978 Amendments)

When CETA was reauthorized in 1978, the Title II PSE program was altered in a number of ways to make it more explicitly a structurally oriented program. While remaining an ongoing program of transitional public service jobs and training, the program as institutionalized under the new CETA Title IID was, like the rest of CETA under the 1978 amendments, targeted more to the disadvantaged. Eligibility for Title IID was restricted to those who were both long-term unemployed and either disadvantaged or welfare recipients. The elimination of the requirement that recipients reside in areas of substantial unemployment made Title IID more targeted to people than to places, in contrast to the old Title II.

The new emphasis on the disadvantaged and on people rather than places was reflected in the Title IID formula. Two new unemployment measures were added: share of total U.S. unemployed and share of excess unemployed, both given 25 percent weight. These factors made a broader variety of areas eligible for substantial funds, and at the same time increased the targeting funds to real concentrations of need. For the first time in a PSE formula, the number of low-income adults was included, also at 25 percent weight. These changes made the Title IID formula more congruent with the purposes of the law, the structural nature of the employment problems addressed, and the eligibility criteria than the old Title II formula. However, the changes also made the "permanent" PSE funds more unstable, because of the fluctuation of the total unemployment factor and the cliff effect on areas with unemployment rates below the statutory "excess" level.

Three other changes embodied in the Title IID formula are important to note. First, the baseline period for identifying ASUs was increased from three months to 12 months; this change made this factor more a true reflection of structural problems and less subject to seasonal influences. Second, as in Title IIA/B/C, the allocations were calculated directly at the prime sponsor level instead of the previous two-stage process. As noted above, this change promoted more equitable allocation across all prime sponsors. Finally, as in Title IIA/B/C, a set-aside was provided to aid prime sponsors in major urban areas that lost funds because of the end of the direct use of the CPS for allocation data.

CETA Title VI Formula (1978 Amendments)

The changes to the CETA Title VI program in the 1978 amendments were more subtle than the changes to Title II/IID, and in the opposite direction. The mission of temporary, countercyclical public service employment was largely unchanged. The eligibility criteria were actually made less stringent than under the 1976 amendments, while participants still had to meet an income guideline, it was raised from 70 percent of the LLSIL to 100 percent. Similarly, the minimum duration of unemployment was reduced from 15 of the last 20 weeks to 10 out of 12. Thus, the program was more open to the cyclically unemployed who did not have fundamental structural employment problems.

Despite the significant changes in the eligibility criteria, the Title VI formula was altered in only one way, which actually favored areas with more structural unemployment. The factors remained: share of total unemployment (50 percent), share of excess unemployment (25 percent) and share of the unemployed in ASUs (25 percent). The only change was an increase in the baseline period for identifying ASUs from 3 to 12 months, as in Title IID, to reduce the effect of seasonal unemployment. The Title VI formula remained impervious to the distribution of the disadvantaged, despite the importance of income in the eligibility criteria. Furthermore, the formula emphasized unemployment in general and concentrated unemployment secondarily, while the eligibility criteria emphasized long-term unemployment, which did not necessarily have the same distribution. Like the Title IID formula, the Title VI formula was unstable, although the countercyclical mission required more flexibility.

Summary of Patterns in Formulas for Employment and Training Grants

Several key patterns emerge from the preceding review of formulas for employability and public service employment programs. These patterns, as will be shown in the next chapter, have direct relevance to the issues surrounding the JTPA formulas.

First, there is substantial continuity in the factors used in the formulas. From the EEA of 1971 to the 1978 CETA amendments, the same four factors, all need-based, are used in varying combinations: share of total unemployment, share of unemployed in ASUs, share of excess unemployment, and share of low-income adults. This continuity has probably contributed ease of comprehension and implementation to the formulas, as well as a form of stability and predictability. However, this continuity also means that the same problems of conceptualization and data adequacy have continued to affect the allocation of grants for employment and training funds. The major exception to this continuity is the series of formulas for vocational education grants, which count a broader population in keeping with their broader mission (although the most important factor is the state's relative income level).

Second, the formulas for employment and training grant allocation are rarely congruent with eligibility requirements and targeting provisions. In particular, the formulas tend to emphasize overall unemployment more than long-term, structural unemployment and the related problems of worker discouragement and involuntary unemployment. Of equal importance is the low degree of emphasis on the low-income population in the formulas, despite the critical role of income in eligibility requirements. Some factors, especially the ASU factor, do not appear to reflect adequately the problems they are intended to measure.

Third, a variety of approaches has been used to allocate employment and training funds to substate areas. In some cases, states have been given discretion over allocation, with only limited guidance. This approach worked successfully in the EEA program, but was more problematical in the allocation of vocational education funds. In the CETA system, initial reliance on two-tier allocation using the same factors at the state and substate levels gave way to direct allocation to prime sponsors, as the data for substate allocations improved. Even the original CETA Title I formula was administered entirely by the Department of Labor, however.

Fourth, the emphasis on unemployment in the allocation of funds for employment and training programs has contributed to the instability of funding for prime sponsors. The factor of total unemployment is volatile because it includes seasonal and cyclical components; the other factors (ASU and excess unemployment) lead to cutoffs of aid when an area falls below an essentially arbitrary threshold. This instability has been seen by some analysts as a negative influence on program quality, continuity, and performance.

Finally, the limitations of the available data sources have caused continuing problems affecting the employment and training grant formulas. These formulas must allocate accurately to small areas on an annual basis. As a result, they require a data source with a larger sample than the CPS, more frequent than the Census, and less subject to bias than the LAUS. Furthermore, the limited array of variables available from these sources has hampered the development of formulas that would more accurately reflect the legislative purposes and eligibility criteria, even if the political conflict over such an approach could be resolved.